

**Final
General Management Plan
Wilderness Study
Environmental Impact Statement**

**PICTURED ROCKS
NATIONAL LAKESHORE**

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General Management Plan and Wilderness Study
Environmental Impact Statement
Pictured Rocks National Lakeshore
Alger County, Michigan**

Pictured Rocks National Lakeshore was established in October 1966. The last comprehensive management plan for the national lakeshore was completed in 1981. Much has changed since 1981 — visitor use patterns and types have changed, the former Coast Guard property in Grand Marais and Munising was added to the national lakeshore in 1996 and 2002, the development of a scenic drive has been prohibited by recent legislation, and revised NPS management policies allow the possibility of recommending some of the lakeshore's lands and waters for designation as wilderness. Each of these changes has major implications for how visitors access and use the national lakeshore, the facilities needed to support those uses, how resources are managed, and how the National Park Service manages its operations. A new plan is needed.

This document examines five alternatives for managing the national lakeshore for the next 15 years. It also analyzes the impacts of implementing each of the alternatives. The **“no- action” alternative** describes the existing conditions and trends of national lakeshore management and assumes that these conditions would remain unchanged. It also serves as a basis of comparison for evaluating the other alternatives. The **preferred alternative** would expand opportunities for visitor use by providing additional and more convenient access to significant national lakeshore features. Federal lands in the Beaver Basin area in the national lakeshore would be proposed for designation as wilderness. Upgrading portions of County Road H- 58, the responsibility of Alger County, would be recommended.

In **alternative A** management of the national lakeshore would be very similar to existing management except that administration and maintenance functions would be consolidated in new facilities at both ends of the national lakeshore, a new campground would be provided, and paving County Road H- 58 from Munising to Grand Marais would be recommended. The central portion of the national lakeshore would be preserved in a relatively primitive, undisturbed state. Two other alternatives, B and D, were considered initially in efforts to consider a range of alternatives; alternative B was dropped from consideration because of the lack of public support, and alternative D was modified to create the preferred alternative.

The national lakeshore would be an easier and more convenient place to visit in **alternative C**. Improved access would be provided to additional lakeshore areas, features, and significant cultural resources. Many NPS- owned roads would be paved or improved, and paving County Road H- 58 would be recommended. Facilities and infrastructure would be improved at some drive- in campgrounds. Selected cultural landscapes would be restored and interpreted.

Much of the middle third of the national lakeshore, including some Lake Superior waters, relatively small portions of the inland buffer zone, Beaver Basin, Chapel Basin, and adjacent areas, would be proposed for designated wilderness in **alternative E**, maximizing opportunities for nonmotorized recreation such as hiking and backcountry camping in a relatively remote, quiet, natural area. Within the proposed wilderness portion of the lakeshore, structures would be removed and roads would be converted to trails or closed and allowed to revert to natural vegetation. To accommodate possible increased use in the nonwilderness portion of the national lakeshore, certain roads would be upgraded, and upgrading portions of County Road H- 58 would be recommended. Also, some cultural and natural features at the east and west portions of the lakeshore would be easier to get to and have more facilities and amenities than now.

This *Final General Management Plan and Wilderness Study Environmental Impact Statement* has been distributed to other agencies and interested organizations and individuals. After at least a 30- day no- action period, a “Record of Decision” on the final approved management plan will be issued by the NPS regional director. For further information, contact Superintendent, Pictured Rocks National Lakeshore, P.O. Box 40, N8391 Sand Point Road, Munising, MI 49862

WHY THE NATIONAL PARK SERVICE PLANS

The National Park Service (NPS) plans for one purpose — to ensure that the decisions it makes will carry out, as effectively and efficiently as possible, its mission, which is as follows:

The National Park Service preserves unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations. The service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

In carrying out this mandate, NPS managers constantly make difficult decisions about ways to preserve significant natural and cultural resources for public enjoyment, about competing demands for limited resources, about priorities for using funds and staff, and about differing local and nationwide interests and views of what is most important. For example, *How can the fragile Everglades ecosystem be protected? What role should Zion National Park play in its surrounding ecosystem and cultural setting? What types of visitor experiences are desirable at Pictured Rocks National Lakeshore?* Planning provides methods and tools for resolving these issues and promoting mutually beneficial solutions – solutions that articulate how public enjoyment of the parks can be part of a strategy for ensuring that resources are protected unimpaired for future generations.

The National Park Service is subject to a number of legal requirements for planning, all intended to support the best possible decisions. By law, the National Park Service is required to conduct comprehensive general management planning, to base decisions on adequate information and analysis, and to track progress made toward goals. Together these processes make the National Park Service more effective, more collaborative, and more accountable.

Planning provides a balance between continuity and adaptability in a dynamic decision- making process. The success of the National Park Service will increasingly depend upon the abilities of its employees to continuously process new information and use it creatively, often in partnership with others, to resolve complex and changing issues. Planning provides a logical, trackable rationale for decision making by focusing first on why a park was established and what conditions should exist there before delving into details about specific actions. Defining the desired conditions to be achieved and maintained provides a touchstone that allows management teams to constantly adapt their actions to changing situations while staying focused on what is most important about the park. The planning process ensures that decision makers have adequate information about benefits, impacts (natural, cultural, visitor use/experience, and socioeconomic), and costs. Analyzing the park in relation to its surrounding ecosystem, historic setting, community, and a national system of protected areas helps park managers and staffs understand how the park can interrelate with neighbors and others in systems that are ecologically, socially, and economically sustainable. Decisions made within this larger context are more likely to be successful over time.

Public involvement throughout the planning process provides focused opportunities for park managers and the planning team to interact with the public and to learn about public concerns, expectations, and values. Understanding the values that people hold in relation to park resources and visitor experiences is often the key to success in coming to decisions that can be implemented. Public involvement also provides opportunities to share information about park purposes and significance, as well as opportunities and constraints regarding the management of park lands and surrounding areas.

Finally, planning helps ensure and document that management decisions are promoting the efficient use of public funds, and that managers are accountable to the public for those decisions. The ultimate outcome of planning for national parks is an agreement among the National Park Service, its partners, and the public on why each area is managed as part of the national park system, what resource conditions and visitor experiences should exist there, and how those conditions can best be achieved and maintained over time.

HOW THE NATIONAL PARK SERVICE IS DOING PLANNING FOR PICTURED ROCKS NATIONAL LAKESHORE

The principal product of the planning process is the exploration of alternatives created with consideration of public comment and resource analysis that leads to the selection and approval of a preferred alternative for directing the future management of the national lakeshore. This document records the results of that effort.

Planning Activity	Public Involvement Opportunities
1. Initiate Project <ul style="list-style-type: none"> The planning team assembles and begins to identify the project's scope and issues and customize the process to fit Pictured Rocks National Lakeshore. 	Newsletters inform the public* about the planning process and solicit feedback from the public. The public can read the newsletters and comment on the response forms and ask to be on the national lakeshore's mailing list.
2. Initiate Planning Context <ul style="list-style-type: none"> The team examines WHY Congress established the lakeshore and reaffirms the lakeshore's mission, purpose, and significance. Team members collect and analyze relevant data and public comments. 	Public open houses help the public learn about the planning process and add public input to the process.
3. Develop and Evaluate Alternatives <ul style="list-style-type: none"> The planning team explores WHAT the lakeshore's future could look like, and proposes and assesses a range of reasonable alternatives for the lakeshore's future. 	Newsletters inform the public about the planning process and solicit feedback from the public. The public can read the newsletters and comment on the response forms and ask to be on the national lakeshore's mailing list. Public open houses help the public learn about the planning process and add public input to the process.
4. Prepare a Draft Document <ul style="list-style-type: none"> The team produces and publishes a <i>Draft General Management Plan and Wilderness Study Environmental Impact Statement</i> that discusses HOW each alternative concept would be attained, what the impacts of those actions would be on the environment (natural, cultural, and socioeconomic resources), and what costs would be incurred. The draft document describes the planning context, management alternatives, and their impacts. Based on the impacts of implementing the alternatives and public comment, the team defines the National Park Service's preferred alternative. 	The draft plan brings the planning process and alternatives into focus and allows the public to read the plan and comment on the alternatives and impacts presented.
5. Prepare and Publish a Final Document <ul style="list-style-type: none"> Based on public comments on the draft document, environmental analysis, and other information, the team revises the <i>Draft General Management Plan and Wilderness Study Environmental Impact Statement</i> and distributes a final plan to the public.* 	The final plan allows the public to read the final document.

* Public is defined in this document as anyone or any organization who is interested in or affected by management decisions for Pictured Rocks National Lakeshore. This includes, but is not limited to, local residents, adjacent landowners, national lakeshore staff, other governmental agencies, tribes, national lakeshore visitors, and state and national special interest organizations.

SUMMARY

Pictured Rocks National Lakeshore was established in October 1966 by Public Law 89- 668 to “preserve for the benefit, inspiration, education, recreational use, and enjoyment of the public, a significant portion of the diminishing shoreline of the United States and its related geographic and scientific features.”

The last comprehensive planning effort (general management plan) for Pictured Rocks National Lakeshore was completed in 1981. Much has occurred since 1981 — patterns and types of visitor use have changed, the national lakeshore boundary was amended in 1996 and 2002 to add the former Coast Guard property in Grand Marais and Munising, the development of a scenic drive has been prohibited by legislation, and revised NPS management policies allow us to examine the potential for recommending some of the lakeshore’s lands and waters for designation as wilderness. Each of these changes has major implications for how visitors access and use the national lakeshore, the facilities needed to support those uses, how resources are managed, and how the National Park Service manages its operations. A new plan is needed to

- Clearly define resource conditions and visitor experiences to be achieved in Pictured Rocks National Lakeshore.
- Provide a framework for national lakeshore managers to use when making decisions about such issues as how to best protect national lakeshore resources, how to provide a diverse range of visitor experience opportunities, how to manage visitor use, and what kinds of facilities, if any, to develop in the national lakeshore.
- Ensure that this foundation for decision making has been developed in consultation with interested stakeholders

and adopted by the NPS leadership after an adequate analysis of the benefits, impacts, and economic costs of alternative courses of action.

This *Draft General Management Plan and Wilderness Study Environmental Impact Statement* presents five alternatives, including the National Park Service’s preferred alternative, for future management of Pictured Rocks National Lakeshore. The five alternatives are the no- action alternative (continuation of existing management), the NPS preferred alternative, alternative A, alternative C, and alternative E. (Two other alternatives were presented to the public in *Newsletter 3*. Alternative B was dropped and alternative D was modified to create the preferred alternative.) The alternatives, which are based on the national lakeshore’s mission, purpose, and significance, present different ways to manage resources and visitor use and improve facilities and infrastructure at the national lakeshore.

The 17,000 acres in the inland buffer zone owned by Kamehameha Schools is being sold to the ForestLand Group Limited Liability Corporation. On- the- ground management of these lands and resources may change as a result of this new ownership.

THE NO- ACTION ALTERNATIVE

The no- action alternative describes a continuation of existing management at Pictured Rocks National Lakeshore and provides a baseline for evaluating the changes and impacts of the other alternatives. The National Park Service would continue to manage Pictured Rocks as it has in the past. Existing operations and visitor facilities would remain in place, concentrated at the west and east ends of the lakeshore, while the central portion would remain in a primitive, relatively

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undisturbed state. No new construction would be authorized. Efforts would continue to restore the national lakeshore to as natural a state as possible. Natural ecological processes would continue to be allowed to occur, and restoration programs would continue or would be initiated where necessary. With few limits on visitor use, visitation could increase throughout most of the national lakeshore. County Road H- 58 would probably remain a mix of paved and unpaved road. No wilderness would be proposed for designation.

The major impacts of continuing existing conditions would be as follows.

- (1) The deterioration of the museum collection.
- (2) The preservation of wilderness values, although not necessarily in perpetuity.
- (3) Some benefits from expenditures of about \$21 million in life- cycle costs (estimated for a 25- year period), which would benefit the overall Alger County economy; some short- term moderate benefits for some individuals and businesses involved with daily/annual operations.
- (4) The maintenance of continuing the diverse recreational activities, the current mix of access (easy, more difficult, and challenging), access to the cliffs and beaches on the Lake Superior shoreline (with few additional restrictions on motorized and nonmotorized boats), and current man- made noise interruptions on the visitor experiences.
- (5) The likely preservation of the scenic character of County Road H- 58 as it is.
- (6) Limited access for visitors with disabilities.

THE PREFERRED ALTERNATIVE

The preferred alternative would provide additional and more convenient access to significant national lakeshore features, thus

expanding opportunities for visitor use in the national lakeshore. Efforts would continue to restore the national lakeshore to as natural a state as possible. Natural ecological processes would be allowed to occur, and restoration programs would be initiated where necessary. Federal lands in the Beaver Basin area in the national lakeshore would be proposed for designation as wilderness. Vehicular access to Little Beaver Lake campground would remain; however, one structure within the proposed wilderness would be removed. Other roads in Beaver Basin would be closed and converted to trails or allowed to revert to natural vegetation. To accommodate possible increased use and to increase ease of access in the portion of the national lakeshore not proposed for wilderness, certain roads would be upgraded (upgrading portions of County Road H- 58 would be recommended), and a campground would be added in the Miners area. Operational facilities would be consolidated at the ends of the national lakeshore for efficiency. About 16% of the national lakeshore would be proposed for designation as wilderness.

Among the important impacts of implementing the preferred alternative would be as follows.

- (1) The preservation of and access to the museum collection and greater protection for the national lakeshore's cultural resources than under the no- action alternative.
- (2) The overall maintenance of wilderness values by law in perpetuity.
- (3) Some benefits from expenditures of about \$50 million in life- cycle costs (estimated for a 25- year period), which would benefit the overall Alger County economy; some moderate to major short- term benefits for some individuals (mostly in the construction industry) from increased business and employment opportunities related to lakeshore projects proposed in this alternative.

- (4) Elimination of gasoline- powered motorboating opportunities on Little Beaver and Beaver Lakes, additional or improved recreational opportunities, and possibly reduced opportunities for primitive driving experiences.
- (5) Improved opportunities to visit more lakeshore features in a given length of time, but possible crowding in certain areas at times.
- (6) Possible changes in County Road H- 58's scenic character.
- (7) Improved access for visitors and staff with disabilities.

ALTERNATIVE A

In alternative A management of the national lakeshore would be very similar to existing management with a few exceptions. Administration and maintenance functions would be consolidated in new facilities near Munising and Grand Marais. A new campground would be provided in the Miners area, and paving County Road H- 58 from Munising to Grand Marais would be recommended. Facilities would continue to be concentrated at the ends, while the central portion of the national lakeshore would be preserved in a relatively primitive, undisturbed state. The lakeshore would continue to be restored to as natural a state as possible. Natural ecological processes would be allowed to occur, and restoration programs would be initiated where necessary. National lakeshore managers would place few additional limits on visitor use, thus visitation could increase throughout most of the national lakeshore. No wilderness would be proposed for designation.

Among the important impacts of implementing alternative A would be as follows.

- (1) The preservation of and access to the museum collection and greater protection for the national lakeshore's cultural resources than under the no- action alternative.
- (2) Lands managed under the primitive prescription would ensure slightly improved overall wilderness values; however, these values would not be guaranteed by law in perpetuity.
- (3) Some benefits from expenditures of about \$37 million in life- cycle costs (estimated for a 25- year period), which would benefit the overall Alger County economy; some moderate to major short- term benefits for some individuals (mostly in the construction industry) from increased business and employment opportunities related to lakeshore projects proposed in this alternative.
- (4) Additional opportunities for camping and touring historic resources and possibly reduced opportunities for primitive driving experiences.
- (5) Improved opportunities to visit more lakeshore features in a given length of time, but possible crowding in certain areas at times.
- (6) Continued intrusions on visitor experiences by man- made noise.
- (7) Continued access (motorized and nonmotorized boats) to cliffs and beaches on the Lake Superior shoreline.
- (8) Possible changes in County Road H- 58's scenic character.
- (9) Improved access to facilities for people with disabilities.

ALTERNATIVE B

Alternative B was dropped from consideration.

ALTERNATIVE C

The national lakeshore would be an easier and more convenient place to visit in alternative C. Vehicular access and/or improved pedestrian access would be provided to additional

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lakeshore areas, features, and significant cultural resources. Many roads would be paved or improved (paving County Road H-58 would be recommended) to increase ease of access for visitors. Facilities and infrastructure would be improved at some drive-in campgrounds. Selected cultural landscapes would be restored and interpreted. An overlook in the Sevenmile Creek area, one of the most spectacular vistas in the national lakeshore, would be added contingent on the state donating an easement across about 240 acres of their land and the acquisition of an easement on about 10 acres from ForestLand Group, Limited Liability Corporation. Operational and administrative facilities would be consolidated near Munising and Grand Marais for efficiency. Natural ecological processes would be allowed to occur, and restoration programs would be initiated where necessary. No wilderness would be proposed for designation.

Among the important impacts of implementing alternative C would be as follows.

- (1) The preservation of and access to the museum collection and greater protection for the national lakeshore's cultural resources than under the no-action alternative.
- (2) Lands managed under the primitive prescription would ensure slightly improved overall wilderness values; however, these values would not be guaranteed by law in perpetuity.
- (3) Some benefits from expenditures of about \$74 million in life-cycle costs (estimated for a 25-year period), which would benefit the overall Alger County economy; some moderate to major short-term benefits for some individuals (mostly in the construction industry) from increased business and employment opportunities related to lakeshore projects proposed in this alternative.

- (4) New facilities (e.g., campground and roads), but possibly a lost opportunity for a long, primitive driving experience.
- (5) Visitors could visit more lakeshore features in a given period of time than under the no-action alternative, but certain areas could be crowded at times.
- (6) Continued intrusions on visitor experiences by man-made noise.
- (7) Continued motorized and nonmotorized boat access to Lake Superior cliffs and beaches.
- (8) Possible changes in County Road H-58's scenic character.
- (9) Improved access to facilities for people with disabilities.

ALTERNATIVE D

Alternative D was used as the basis for the preferred alternative.

ALTERNATIVE E

Much of the middle third of the national lakeshore would be proposed for designated wilderness in alternative E. Beaver Basin, Chapel Basin, and adjacent areas would be included in the wilderness proposal, maximizing opportunities for nonmotorized recreation such as hiking and backcountry camping in a relatively remote, quiet, natural area. Within the proposed wilderness portion of the lakeshore, structures would be removed and roads would be converted to trails or closed and allowed to revert to natural vegetation. To accommodate possible increased use in the nonwilderness portion of the national lakeshore, certain roads would be upgraded (upgrading portions of County Road H-58 would be recommended), and a new campground would be added in the Miners area. Operational facilities would be consolidated near Munising and Grand Marais for efficiency. Some cultural and natural features at the east and west portions of the lakeshore would be easier to get to and have more

facilities and amenities than now. Natural ecological processes would be allowed to occur, and restoration programs would be initiated where necessary. About 23% of the national lakeshore would be proposed for designation as wilderness.

Among the important impacts of implementing alternative E would be as follows:

- (1) The preservation of and access to the museum collection and greater protection for the national lakeshore's cultural resources than under the no-action alternative.
- (2) Enhanced wilderness values that would be preserved by law in perpetuity.
- (3) Some benefits from expenditures of about \$37 million in life-cycle costs (estimated for a 25-year period), which would benefit the overall Alger County economy; some moderate to major short-term benefits for some individuals (mostly in the construction industry) from increased business and employment opportunities related to lakeshore projects proposed in this alternative.
- (4) Restricting tour boat operation between Miners Beach and Chapel Beach might affect the economic viability of tour boat operations.
- (5) The loss of some motorboating opportunities, but additional or improved recreational opportunities (a new drive-in campground and hiking trails) and opportunities to visit and learn about historic resources).
- (6) Possibly less opportunities for primitive driving experiences.
- (7) Less motorized boat access to primary features
- (8) Reduced intrusions on visitor experiences from man-made noise.
- (9) Lost opportunities to get close-up views of cliffs and beaches from a tour boat or other motorboat.
- (10) Possible changes in County Road H-58's scenic character.

- (11) Improved access to facilities for people with disabilities.

THE NEXT STEPS

After at least a 30-day no-action period, a record of decision approving a final plan will be signed by the NPS regional director. With the signing of the record of decision, the plan can then be implemented, depending on funding and staffing. (A record of decision does not guarantee funds and staff for implementing the approved plan.) If the record of decision includes lands that are being recommended for designation as wilderness, another approval process, described below, is set in motion.

THE WILDERNESS STUDY — WHAT IT MEANS AND HOW IT IS APPROVED

The Wilderness Act of 1964 (Public Law 88-577) established a national wilderness preservation system to "secure for the American people of present and future generations the benefits of an enduring resource of wilderness.

A wilderness ...is...an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness ... (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least 5,000 acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

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If lands are approved as wilderness in the record of decision, a wilderness proposal would be prepared from the director of the National Park Service to the Department of the Interior (Assistant Secretary's Office) as "proposed" wilderness. This proposed wilderness recommendation will identify national lakeshore lands that are being recommended for immediate wilderness designation, as well as any other lands identified as "potential" wilderness (see glossary).

The secretary of the interior reviews the NPS proposed wilderness and either approves or

revises the proposal, and the result is forwarded to the president for his consideration. The president is then responsible for transmitting his recommendations to both houses of Congress (accompanied by maps and boundary descriptions). After the president's formal transmittal of the secretary's wilderness recommendation to Congress, Congress may enact the legislation needed to include the area within the national wilderness preservation system as "designated" and/or "potential" wilderness.

A GUIDE TO THIS DOCUMENT

This document contains the *General Management Plan*, which is a long-term framework for making management decisions, and a *Wilderness Study*, which explores alternatives for wilderness designation. The environmental impact statement portion of the document assesses the impacts for both the *General Management Plan* and the *Wilderness Study*.

This *General Management Plan and Wilderness Study / Environmental Impact Statement* is organized in accordance with the Council on Environmental Quality's implementing regulations for the National Environmental Policy Act and the National Park Service's Director's Orders on "Park Planning" (DO-2), "Environmental Analysis" (DO-12) and "Wilderness Preservation and Management" (DO-41).

Chapter 1: The Purpose of and Need for Action sets the framework for the entire document. It describes why the plan is being prepared and what needs it must address. It gives guidance for the alternatives that are being considered. The alternatives are based on the national lakeshore's legislated mission, its purpose, the significance of its resources, special mandates and administrative commitments, and servicewide mandates and policies. A change in NPS wilderness policies allows lands within the national lakeshore to be considered for wilderness study. This general management plan process provides the opportunity to conduct the wilderness study in accordance with the Wilderness Act and NPS management policies.

The chapter also details the planning opportunities and issues that were raised during public scoping; the alternatives in the next chapter address these issues and concerns to varying degrees. This chapter concludes with a section describing impact topics considered in the environmental

impact statement and impact topics dismissed from further consideration.

Chapter 2: Alternatives, Including the Preferred Alternative, begins by describing the management prescriptions that will be used to manage the national lakeshore in the future. It also describes the existing management in the national lakeshore (the no-action alternative). The five alternatives are then presented, one of which is the National Park Service's preferred alternative. Alternatives A, C, and E are similar to the alternatives that were presented to the public in the May 2000 newsletter 3. Alternative B was dropped from consideration after public review. The preferred alternative presented in this document used the concept of alternative D presented in newsletter 3 as a foundation and pulled elements from other alternatives to strengthen the preferred alternative and respond to public comments. The preferred alternative and alternative E present different opportunities to set aside some of the national lakeshore as wilderness. The possible mitigation of the impacts of some proposed actions is described. The chapter concludes with summary tables of the alternative actions and their environmental consequences.

Chapter 3: The Affected Environment describes those areas and resources that would be affected by implementing actions in the various alternatives—cultural resources, natural resources, socioeconomic resources, and visitor use and experience.

Chapter 4: The Environmental Consequences analyzes the impacts of implementing the alternatives on topics described in the "Affected Environment" chapter. Methods for assessing the impacts in terms of the intensity, type, and duration of impacts are outlined.

SUMMARY

Chapter 5: The Consultation and Coordination describes the history of the current planning effort and lists agencies and organizations that will be asked to review this document.

The **Appendixes** present supporting information for the document, along with references, a glossary, and a list of the planning team and other consultants.

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Chapter 1

PURPOSE OF AND NEED FOR THE PLAN



BRIEF DESCRIPTION: PICTURED ROCKS NATIONAL LAKESHORE

THE REGION

Pictured Rocks National Lakeshore is in the north- central section of the Upper Peninsula of Michigan along the south shore of Lake Superior (see Region map). Hiawatha National Forest, Seney National Wildlife Refuge, Grand Island National Recreation Area and numerous state forests and parks have been established in the vicinity of the national lakeshore. Several Canadian parks are along the northern shore of the lake. National park system units in the region include Voyageurs National Park in northern Minnesota; Apostle Islands National Lakeshore in Wisconsin; Isle Royale National Park, Keweenaw National Historical Park (northwestern Lake Superior), and Sleeping Bear Dunes National Lakeshore (on the northeastern shore of Lake Michigan) in Michigan; and Indiana Dunes National Lakeshore in Indiana (at the southern tip of Lake Michigan). The North Country National Scenic Trail passes through the national lakeshore.

Pictured Rocks National Lakeshore is within a day's drive of the major metropolitan areas of Minneapolis- St. Paul, Madison, Milwaukee, Chicago, Lansing, and Detroit. Substantial towns near the national lakeshore include Sault St. Marie, Marquette, and Escanaba. Airports are at each of these localities. Major interstate and state roads lead to the Upper Peninsula and the national lakeshore from these cities and towns. The main tourist attractions of the Upper Peninsula are the outstanding natural resources, associated recreational opportunities, and historic sites and communities.

THE SETTING

Pictured Rocks National Lakeshore extends 42 miles along the south shore of Lake

Superior between the communities of Munising and Grand Marais (see Vicinity map). It is known for the spectacular multicolored sandstone cliffs (Pictured Rocks) that extend about 12 miles along Lake Superior in the western portion of the national lakeshore and attain a height of almost 200 feet. The eastern portion of the lakeshore contains the perched Grand Sable Dunes, which rise more than 300 feet above the lake. The dunes, a major lakeshore attraction, are a rare occurrence in the Great Lakes region and contain uncommon plant species and communities.

In addition to the Pictured Rocks, the national lakeshore offers other recreational attractions. Numerous picturesque waterfalls cascade over the Pictured Rocks and the inland escarpment. Lake Superior and the inland lakes accommodate boating, fishing, and swimming, and remote backcountry areas such as Beaver and Chapel basins are ideal for camping and hiking. Also, the lakeshore has a variety of cultural resources that depict the maritime, iron, logging, and Native American histories of the area. Winter activities include ice fishing, snowshoeing, cross- country skiing, and snowmobiling.

County Road H- 58 provides access to the national lakeshore. It is administered, maintained, and improved by Alger County.

THE NATIONAL LAKESHORE

Pictured Rocks was recognized as a potential outstanding public recreation site at least as far back as 1924, when the Michigan Conservation Commission created a state park at Miners Castle. As with so many conservation projects, the lack of funding prevented acquisition of important acreage.

The National Park Service, after conducting a Great Lakes shoreline recreation area survey in 1957- 58, identified Pictured Rocks as one of five areas that contained features of national significance. It was recommended for consideration as an addition to the national park system, and planning for the national lakeshore began.

Pictured Rocks National Lakeshore was established October 15, 1966, by Public Law (PL) 89- 668 to “preserve for the benefit, inspiration, education, recreational use, and enjoyment of the public, a significant portion of the diminishing shoreline of the United States and its related geographic and scientific features ...” (see appendix A).

The national lakeshore encompasses 73,235 acres. The enabling legislation established an inland buffer zone within the national lakeshore.

The shoreline zone (33,929 acres, all in federal ownership except for 10 acres) is to be managed to preserve its scenery and outstanding natural features.

The inland buffer zone (39,306 acres that are a mixture of private and governmental ownership) was established by Public Law 89- 668 (October 15, 1966), Section 9(a), to “stabilize and protect the existing character and uses of the lands, waters, and other properties within such zone for the purpose of preserving the setting of the shoreline and lakes, protecting its watershed and streams, and providing for the fullest economic utilization of the renewable resources through sustained yield timber management and other resource management compatible with the purposes of this Act.” Sustainable yield is defined as: The stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality, and potential to fulfill, now and in the future, relevant ecological, economic, and social functions at local, national, and global levels, and that does not

cause damage to other ecosystems (Helms 1998).

The ForestLand Group, Limited Liability Corporation (about 17,500 acres) and the state of Michigan (13,912 acres) own most of the land in the inland buffer zone. The remaining land in the inland buffer zone is owned by private landowners (6,084 acres), or by the National Park Service (1,810 acres). Local zoning regulates the density, type, location, and character of private development in the inland buffer zone. Munising Township, Burt Township, and the city of Munising maintain the authority to regulate land use on all private lands in the inland buffer zone. Ranger staff monitor land use practices in the inland buffer zone and assist the townships and the city in education and enforcement of their zoning ordinances. The National Park Service works closely with the local zoning administrators to ensure that zoning ordinances are followed and that administration of those ordinances fulfills the intent of the inland buffer zone and carries out the mandates of the enabling legislation. Protection through local zoning allows for reasonable use of private land, including harvesting of timber, and will help to protect the lakeshore’s natural and cultural resources by controlling the intensity and locations of appropriate uses.

RELEVANT LEGISLATION AND POLICIES

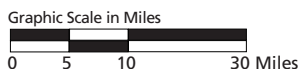
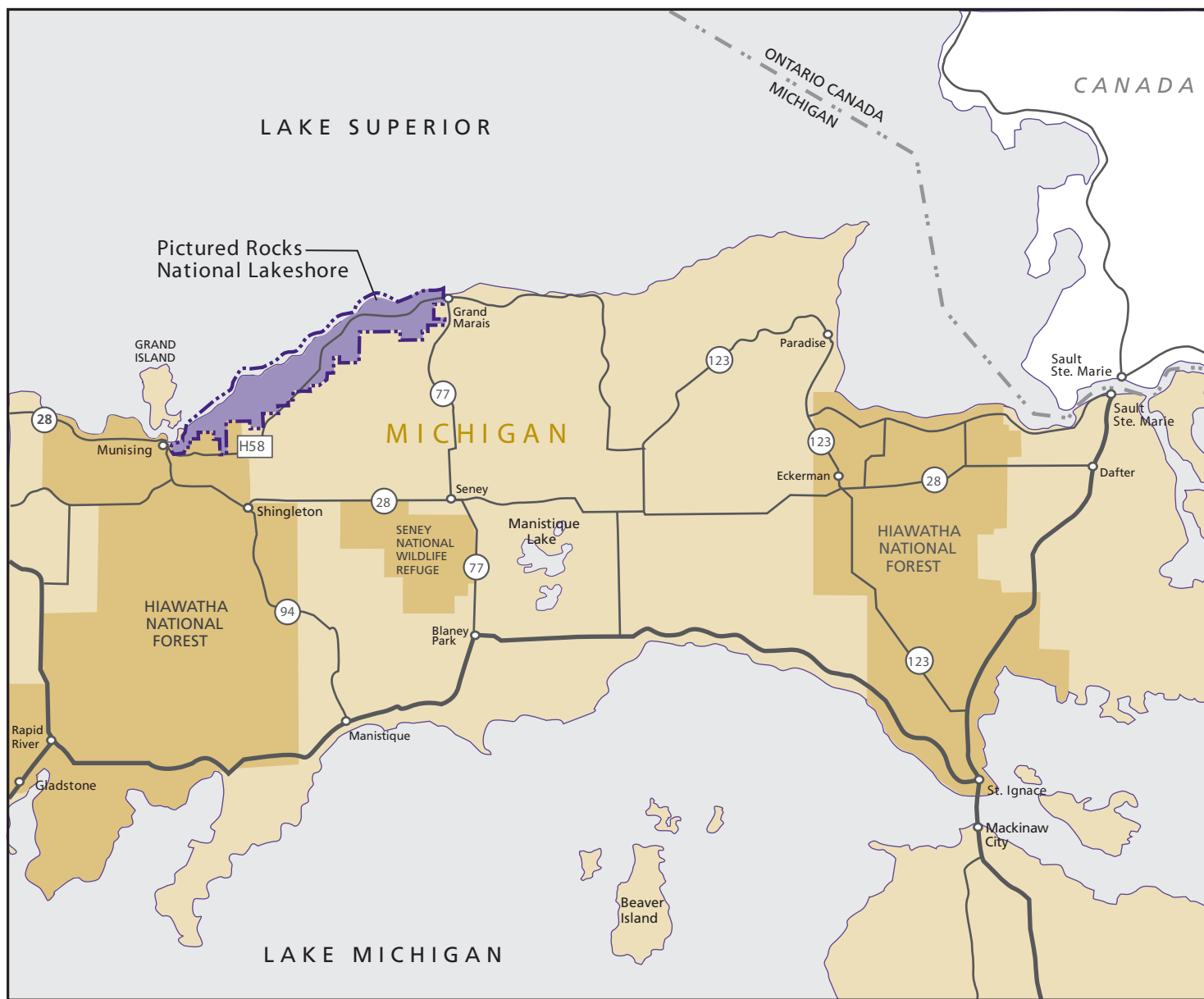
The enabling legislation for the national lakeshore (PL 89- 668) directed the National Park Service to construct a scenic shoreline drive. Title II, Section 202 of PL 105- 378, amended the enabling legislation for the national lakeshore and required that the secretary of the interior include specific provision for the development of facilities to provide the benefits of public recreation, including appropriate improvements to Alger County Road H- 58. The amendment also prohibits the construction of a scenic shoreline drive in Pictured Rocks National Lakeshore.



Region

Pictured Rocks National Lakeshore General Management Plan Wilderness Study

United States Department of the Interior • National Park Service
DSC • 625 • MAY 2003 • 20,075



Vicinity

Pictured Rocks National Lakeshore
General Management Plan
Wilderness Study
Environmental Impact Statement

United States Department of the Interior / National Park Service

DSC • 625 • MAY 2003 • 20076

Director's Order 41, "Wilderness Preservation and Management," allows consideration of wilderness designation in areas with outstanding mineral rights only if it is likely that those mineral rights will never be exercised. The written agreement between Cleveland- Cliffs

Iron Company (on land now owned by the ForestLand Group, Limited Liability Corporation) and the National Park Service would most likely preclude mineral exploration or development within the lakeshore.

PURPOSE OF AND NEED FOR THE PLAN AND WILDERNESS STUDY

PURPOSE OF THE PLAN

The approved *General Management Plan* will be the basic document for managing Pictured Rocks National Lakeshore for the next 15 years. The purposes of this general management plan are as follows:

- Clearly define resource conditions and visitor experiences to be achieved in Pictured Rocks National Lakeshore.
- Provide a framework for national lakeshore managers to use when making decisions about such issues as how to best protect national lakeshore resources, how to provide a quality visitor experience, how to manage visitor use, and what kinds of facilities, if any, to develop in the national lakeshore.
- Ensure that this foundation for decision making has been developed in consultation with interested stakeholders and adopted by the NPS leadership after an adequate analysis of the benefits, impacts, and economic costs of alternative courses of action.

Legislation establishing the National Park Service as an agency and governing its management provides the fundamental direction for the administration of Pictured Rocks National Lakeshore (and other units and programs of the national park system). This general management plan will build on these laws and the legislation as amended that established Pictured Rocks National Lakeshore to provide a vision for the lakeshore's future. The "Servicewide Mandates and Policies" section calls the reader's attention to topics that are important to understanding the management direction at the national lakeshore. Table 1 summarizes the topic and the condition to which management is striving. Appendix B gives more detail on the law or

policy directing management actions. The alternatives in this general management plan address the desired future conditions that are not mandated by law and policy and must be determined through a planning process.

NEED FOR THE PLAN

This new management plan for Pictured Rocks National Lakeshore is needed because the last comprehensive planning effort for the national lakeshore was completed in 1981. Much has occurred since then – patterns and types of visitor use have changed, the national lakeshore boundary was amended in 1996 to add the former Coast Guard property in Grand Marais, the development of a scenic drive has been prohibited by recent legislation, and revised NPS management policies allow us to examine the potential for recommending some of the lakeshore's lands and waters for designation as wilderness. Each of these changes has major implications for how visitors access and use the lakeshore, the facilities needed to support those uses, how resources are managed, and how the National Park Service manages its operations.

The general management plan represents a commitment by the National Park Service to the public on how the national lakeshore will be used and managed. As such, it is intended to

- Confirm the mission, purpose, and significance of the national lakeshore.
- Determine the best mix of resource protection and visitor experiences beyond what is prescribed by law and policy. This mix is based on the mission, purpose, and significance statements for the national lakeshore; the range of public expectations and concerns; the natural and cultural resources in the national lakeshore; the impacts of the alternatives on natural,

cultural, and socioeconomic conditions; impacts on visitor use and experience; and long- term economic considerations and costs.

- Define management prescriptions that implement the goals of the National Park Service and the public with regard to natural and cultural resource management and protection and visitor use and experience. Facilities that are appropriate within each management prescription are also identified.
- Determine the areas to which the management prescriptions should be applied to achieve the overall management goals of the national lakeshore.
- Assist NPS staff in determining whether actions proposed by the National Park Service or others are consistent with the goals embodied in the approved general management plan.
- Serve as the basis for more detailed management documents, such as five-year strategic plans and implementation plans.

Implementation funding is not automatically forthcoming once the general management plan is approved. The national lakeshore must compete with other units in the national park system for funding. The general management plan does not describe how particular programs or projects should be prioritized or implemented. Those decisions will be addressed during the more detailed planning associated with strategic plans, implementation plans, etc. All of those plans are dependent on subsequent funding and will be based on the goals, future conditions, and appropriate types of activities established in the approved general management plan.

A general management plan also is needed to meet the requirements of the National Parks and Recreation Act of 1978 and NPS policy, which mandate development of a general

management plan for each unit in the national park system.

PURPOSE OF THE WILDERNESS STUDY

A wilderness study evaluates if lands and waters in a national park system unit are appropriate for designation as wilderness. Two of the alternatives (the preferred alternative and alternative E) explore wilderness options for the national lakeshore. Elements of the wilderness study, which have been integrated into this document, are supported by appropriate documentation of compliance with the National Environmental Policy Act and the National Historic Preservation Act.

NEED FOR THE WILDERNESS STUDY

NPS Management Policies at the time of the 1981 planning effort precluded wilderness consideration on areas where the federal government did not control the underground mineral rights, which was the case at Pictured Rocks National Lakeshore. Therefore, wilderness suitability was not evaluated for the national lakeshore.

However, revised *NPS Management Policies* allow consideration of wilderness eligibility and designation on lands owned by the federal government with outstanding mineral rights. The written agreement between Cleveland-Cliffs Iron Company (land subsequently purchased by the Kamehameha Schools and sold to the ForestLand Group, Limited Liability Corporation) and the National Park Service would most likely preclude mineral exploration or development in the national lakeshore. This is a deed restriction that stays with the property.

The Beaver Basin and Chapel Basin areas were found to possess wilderness characteristics. NPS management policies provide that the national lakeshore should prepare a wilderness study for lands and waters found

to have the characteristics and values of wilderness as defined in the Wilderness Act. The study can also be used to develop the recommendation to Congress for designation as part of the national wilderness preservation system.

The National Park Service is taking advantage of the opportunity provided by the general management plan / environmental impact statement process to complete the required wilderness study. If appropriate, depending

on the findings and conclusions of this wilderness study, the National Park Service will prepare a wilderness proposal (to forward to the Department of the Interior). Lands proposed for designation as wilderness are required by NPS management policies to be managed as wilderness until designation by Congress. Therefore, the question of wilderness at Pictured Rocks requires resolution so that NPS staff may move ahead in managing land within its jurisdiction.

GUIDANCE FOR THE PLANNING EFFORT

MISSION, PURPOSE, AND SIGNIFICANCE STATEMENTS

Mission statements describe the desired future conditions for the national lakeshore that exist when the legislative intent is being met. The National Park Service mission, as stated in the 1916 Organic Act, is “to conserve the scenery and the natural and historic objects and the wildlife therein and provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.”

Mission

The mission of Pictured Rocks National Lakeshore is to conserve the ecosystem integrity of the national lakeshore, a mosaic of geologic, biologic, scenic, and historic features, offering opportunities for recreation, education, inspiration, and enjoyment forever.

National lakeshore purpose statements are based on national lakeshore legislation and legislative history, and NPS policies. The statements reaffirm the reasons for which the national lakeshore was set aside as a unit of the national park system, and provide the foundation for national lakeshore management and use.

Purpose

The purpose of Pictured Rocks National Lakeshore is to

- preserve a portion of the Great Lakes shoreline for its geographic, scientific, scenic, and historic features, and its associated ecological processes
- provide opportunities for public benefit in recreation, education, enjoyment, and inspiration

- protect the character and use of the shoreline zone while allowing economic utilization of the inland buffer zone’s renewable resources

National lakeshore significance statements capture the essence of the national lakeshore’s importance to our country’s natural and cultural heritage. Significance statements do not inventory national lakeshore resources; rather, they describe the national lakeshore’s distinctiveness and help to place the national lakeshore within its regional, national, and international contexts. Defining national lakeshore significance helps managers make decisions that preserve the resources and values necessary to accomplish Pictured Rocks National Lakeshore’s purpose.

Significance

The significance of Pictured Rocks National Lakeshore is

- Pictured Rocks National Lakeshore preserves and affords public access to a spectacular and diverse segment of the Lake Superior shoreline.
 - Unmatched in their scenic value, the 200- foot high Pictured Rocks cliffs rise perpendicularly from Lake Superior, creating a rock mosaic of form, color, and texture, which is enhanced by cascading waterfalls.
 - Grand Sable Dunes, perched atop 300-foot- high sand banks above Lake Superior, are one of two perched dune systems on the Great Lakes; within these dunes are unique plant communities resulting from geomorphic processes.
 - Twelve miles of unspoiled and undeveloped Lake Superior beach contrast the Pictured Rocks cliffs and Grand Sable Dunes.

- Bedrock geology and glacial landforms provide significant topographic relief marked by streams, inland lakes, and a diversity of associated vegetation.
- The shoreline offers extraordinary and inspirational scenic vistas of Lake Superior, the largest surface area of fresh water on earth.
- Pictured Rocks National Lakeshore offers a variety of affordable year- round recreational opportunities for appropriate public use.
- The lakeshore contains a spectrum of cultural resources focused on the human use of Lake Superior and its shoreline.
- Lying in a transition zone between boreal and eastern hardwood forest, the lake-shore's scientifically recognized assemblage of flora and fauna is representative of associations unique to the Lake Superior Basin.
- Pictured Rocks is the only NPS area with a legislated buffer zone.

SPECIAL MANDATES AND ADMINISTRATIVE COMMITMENTS

Special mandates and administrative commitments refer to lakeshore- specific requirements. These formal agreements are often established concurrently with the creation of a unit of the national park system. These include the following:

Title II, Section 202, Public Law 105- 378, requires the agency to include "appropriate improvements" to Alger County Road H- 58 as part of agency provisions for public use facilities and prohibits the development of a scenic shoreline drive required in the enabling legislation.

The harvesting of renewable resources on a sustained yield basis — principally timber — is

to be permitted within the inland buffer zone of the national lakeshore (Public Law 89- 668, Sections 9 and 10).

The national lakeshore is the only national park system unit with a legislated inland buffer zone. Pursuant to the national lake-shore's enabling legislation, interpretation of natural and cultural resources will occur in the inland buffer zone and focus on the unique relationships between resources and processes within the national lakeshore boundary.

Hunting and fishing are to be permitted in the national lakeshore in accordance with Michigan hunting and fishing regulations; however, "zones and ... periods" may be designated as no hunting for "reasons of public safety, administration, or public use and enjoyment." Such closures can take place following consultation with the Michigan Department of Natural Resources (Public Law 89- 668, Section 5). The courts have determined that under existing law trapping is not a permissible activity on NPS lands and waters.

Mineral rights in the national lakeshore are held by the Michigan Department of Natural Resources, ForestLand Group, Limited Liability Corporation, and other private and corporate owners. When Cleveland- Cliffs Iron Company sold land to the government, they reserved mineral rights subject to an agreement with the National Park Service covering methods of mineral extraction within the national lakeshore. The agreement precludes milling or processing facilities from being constructed on lands in the inland buffer zone or on lands in the shoreline zone where Cleveland- Cliffs Iron Company retained mineral rights. When the Kamehameha Schools purchased the land from Cleveland- Cliffs Iron Company the provisions of the agreement transferred with the title. ForestLand Group, Limited Liability Corporation recently purchased the land from the Kamehameha Schools and the provisions transferred with the title to the property. The agreement precludes waste dumps, tailing

deposits, and stockpiling of extracted material on the surface of shoreline zone lands. These activities are also precluded in the inland buffer zone except by written consent of the director of the National Park Service.

The state has granted a perpetual easement to the National Park Service for maintenance and visitor access purposes for a portion of the Chapel Road. An additional easement has been granted to the National Park Service for communication purposes (Buck Hill fire tower).

The National Trails System Act (Public Law 90- 543) states that national scenic trails are located to “provide for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant scenic, historic, natural, or cultural qualities of the areas through which such trails may pass.” Pictured Rocks National Lakeshore contains a segment of the North Country National Scenic Trail, which was added to the National Trails System on March 5, 1980. The North Country National Scenic Trail will continue to be managed in a way that supports the directions given in the National Scenic Trails Act and the North Country National Scenic Trail’s *Comprehensive Management Plan* (NPS 1982).

The national lakeshore issues special use permits. Special use permits have been issued to Alger County Parks and Recreation Department to place a volleyball net at Sand Point Beach, for an annual sea kayak symposium held within the national lakeshore lands and waters, to ForestLand Group, Limited Liability Corporation, for access across NPS lands to move logging equipment and haul forest products in the inland buffer zone, and for the annual Michigan Ice Festival.

The national lakeshore maintains incidental business permits, which allow private business owners the opportunity to conduct commercial operations within the national lakeshore.

These commercial activities include back-packing, ice climbing, sea kayaking, hiking, cross- country skiing, scenic boat tours, and snowshoeing.

There are cooperative mutual aid fire agreements with Hiawatha National Forest, Michigan Department of Natural Resources, and Seney National Wildlife Refuge. NPS law enforcement staff cooperates with the Michigan State Police, Alger County Sheriff’s Department, Michigan Department of Natural Resources, and the Munising City Police. There is a cooperative agreement between the national lakeshore and Burt Township Ambulance Corps for emergency medical services. The national lakeshore also has an Inter-agency Agreement with Hiawatha National Forest for joint operation of the visitor center.

SERVICEWIDE MANDATES AND POLICIES

This section identifies what must be done at Pictured Rocks National Lakeshore to comply with federal laws and with the policies of the National Park Service. Many park management directives are specified in laws and policies guiding the National Park Service and are therefore not subject to alternative approaches. For example, there are laws about managing environmental quality (such as the Clean Air Act and the Endangered Species Act); laws governing the preservation of cultural resources (such as the National Historic Preservation Act); and laws about providing public services (such as the Americans with Disabilities Act). A general management plan is not needed to decide, for instance, that it is appropriate to protect endangered species, control exotic species, protect archeological sites, provide for barrier- free access, and conserve artifacts.

Many of the laws and executive orders that guide national lakeshore management, with their legal citations, are identified in appendix C. Some of these laws and executive orders

the national park system. These include the 1916 Organic Act creating the National Park Service, the General Authorities Act of 1970, and the act of March 27, 1978, relating to the management of the national park system. Others have much broader application, such as the Endangered Species Act, the National Historic Preservation Act, and Executive Order 11990 addressing the protection of wetlands.

The NPS Organic Act (16 U.S.C. § 1) provides the fundamental management direction for all units of the national park system:

promote and regulate the use of the Federal areas known as national parks, monuments, and reservations...by such means and measures as conform to the fundamental purpose of said parks, monuments and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

The National Park System General Authorities Act (16 U.S.C. § 1a-1 *et seq.*) affirms that while all national park system units remain “distinct in character,” they are “united through their interrelated purposes and resource into one national park system as cumulative expressions of a single national heritage.” The act makes it clear that the NPS Organic Act and other protective mandates apply equally to all units of the system. Further, amendments state that NPS management of park units should not “derogat[e]...the purposes and values for which these various areas have been established.”

The NPS Organic Act and the General Authorities Act prohibit any impairment of park resources. NPS 2001 *Management Policies* (Section 1.4 *et seq.*) state that an impact would be

more likely to constitute an impairment to the extent that it affects a resource or value whose conservation is: (1) necessary to fulfill a specific purpose identified in the establishing legislation or proclamation of the park; (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or (3) identified as a goal in the park’s general management plan or other relevant NPS planning documents.

The National Park Service also includes the park’s role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system among the values that are subject to the no impairment standard. Finally, unless the activity is required by statute, the National Park Service cannot allow an activity in a park if it would involve or result in the following:

- Would impair park resources or values;
- Create an unsafe or unhealthful environment for other visitors or employees;
- Are contrary to the purposes for which the park was established; or
- Unreasonably interfere with:
 - the atmosphere of peace and tranquility, or the natural soundscape maintained in wilderness and natural, historic, or commemorative locations within the park;
 - NPS interpretive, visitor service, administrative, or other activities;
 - NPS concessioner or contractor operations or services; or
 - other existing, appropriate park uses.

For these reasons, Chapter 4 of this *General Management Plan and Wilderness Study Environmental Impact Statement* provides an analysis of the potential of each alternative to leave park resources and values unimpaired relative to existing and future operations.

The National Park Service also has established policies for all units under its stewardship. These are identified and explained in NPS *Management Policies* (NPS 2001). The alternatives considered in this document incorporate and comply with the provisions of these mandates and policies.

To truly understand the implications of an alternative, it is important to combine the servicewide mandates and policies with the management actions described in an alternative.

Below are some of the key servicewide mandates and policy topics that are being implemented at Pictured Rocks National Lakeshore. Across from each topic are the desired conditions that the staff is striving to achieve for that topic. The table is written in the present tense to describe desired conditions as if they have already been achieved. Appendix B expands on this information by citing the source of the mandate and examples of the types of actions currently being pursued by national lakeshore staff.

TABLE 1: SERVICEWIDE MANDATES AND POLICIES PERTAINING TO THE NATIONAL LAKESHORE

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at the National Lakeshore
Relations with National Lakeshore Neighbors	<p>The national lakeshore is managed as part of a greater ecological, social, economic, and cultural system.</p> <p>Because the national lakeshore is an integral part of a larger regional environment, the National Park Service works cooperatively with others to anticipate, avoid, and resolve potential conflicts, protect national lakeshore resources, and address mutual interests in the quality of life for community residents. Regional cooperation involves federal, state, and local agencies, Indian tribes, neighboring landowners, and all other concerned parties.</p>
Air Quality	<p>Air quality in the national lakeshore meets national ambient air quality standards (NAAQS) for specified pollutants.</p> <p>Activities in the national lakeshore do not contribute to deterioration in air quality.</p>
Water Resources	<p>Surface waters and groundwaters are protected and water quality meets or exceeds all applicable water quality standards.</p> <p>NPS programs and facilities are maintained and operated to avoid pollution of surface waters and groundwater.</p> <p>Natural floodplain values are preserved.</p> <p>The natural and beneficial values of wetlands are preserved and enhanced.</p>
Geologic Resources	<p>Natural soil resources and processes function in as natural a condition as possible, except where special management considerations are allowable under policy.</p>
Invasive Species (Exotic Species)	<p>“Native species” are defined as all species that have occurred or now occur as a result of natural processes on lands designated as units of the national park system. Native species in a place are evolving in concert with each other. “Exotic species” are those species that occupy or could occupy park lands directly or indirectly as the result of deliberate or accidental human activities. Exotic species are also commonly referred to as non- native, alien, or invasive species. Because an exotic species did not evolve in concert with the species native to the place, the exotic species is not a natural component of the natural ecosystem at that place. The management of populations of exotic plant and animal species, up to and including eradication, will be undertaken wherever such species threaten national lakeshore resources or public health and when control is prudent and feasible.</p>
Managing Biological Resources	<p>The National Park Service maintains all native plants and animals as parts of the national lakeshore’s natural ecosystems. The term “plants and animals” refers to all five of the commonly recognized kingdoms of living things(including such groups as flowering plants, ferns, mosses, lichens, algae, fungi, bacteria, mammals, birds, reptiles, amphibians, fishes, insects, worms, crustaceans, and microscopic plants or animals).</p> <p>Populations of native plant and animal species function in as natural condition as possible except where special considerations are warranted.</p> <p>Native species populations that have been severely reduced in or extirpated from the national lakeshore are restored where feasible and sustainable.</p>
Species of Concern	<p>Federal and state- listed threatened and endangered species and their habitats are protected and sustained.</p> <p>The management of populations of exotic plant and animal species, up to and including eradication, will be undertaken wherever such species threaten federal or state threatened and endangered species and/or their habitat and when control is prudent and feasible.</p>
Fire Management	<p>All wildfires are suppressed or controlled as soon as possible.</p>

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at the National Lakeshore
Night Sky	The National Park Service cooperates with national lakeshore neighbors and local government agencies to help minimize the intrusion of artificial light into the night sky in the national lakeshore. Artificial outdoor lighting is limited to basic safety requirements and is shielded when possible.
Natural Soundscapes	The National Park Service preserves the natural ambient soundscapes, restores degraded soundscapes to the natural ambient condition wherever possible, and protects natural soundscapes from degradation due to human- caused noise. The National Park Service manages disruptions from recreational uses to provide a high- quality visitor experience, striving to preserve or restore the natural quiet and natural sounds.
Archeological Resources	<p>Archeological sites are identified and inventoried, and their significance is determined and documented.</p> <p>Archeological sites are protected in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable.</p> <p>In those cases where disturbance or deterioration is unavoidable, the site is professionally documented and salvaged.</p>
Ethnographic Resources	<p>Appropriate cultural anthropological research is conducted in cooperation with national lakeshore- associated groups.</p> <p>The National Park Service accommodates access to and ceremonial use of Native American sacred sites by Indian religious practitioners and avoids adversely affecting the physical integrity of these sacred sites.</p> <p>NPS general regulations on access to and use of natural and cultural resources in the national lakeshore are applied in an informed and balanced manner that is consistent with national lakeshore purposes and does not unreasonably interfere with Native American use of traditional areas or sacred resources and does not result in the degradation of national lakeshore resources.</p> <p>Other federal agencies, state and local governments, potentially affected Native American and other communities, interest groups, and the state historic preservation officer are given opportunities to become informed about and comment on anticipated NPS actions at the earliest practicable time.</p> <p>The National Park Service consults with tribal governments before taking actions that affect Indian tribes. These consultations are open and candid so that all interested parties may evaluate for themselves the potential impact of relevant proposals. National lakeshore staff regularly consult with traditionally associated Native Americans regarding planning, management, and operational decisions that affect subsistence activities, sacred materials or places, or other ethnographic resources with which they are historically associated.</p> <p>The identities of community consultants and information about sacred and other culturally sensitive places and practices are kept confidential.</p> <p>Native Americans and other individuals and groups linked by ties of kinship or culture to ethnically identifiable human remains are consulted when remains may be disturbed or are encountered on national lakeshore lands.</p>
Historic Properties	Cultural resources are inventoried and their significance and integrity are evaluated under National Register of Historic Places criteria. The qualities of historic properties that contribute to their actual listing or their eligibility for listing on the National Register of Historic Places are protected in accordance with the <i>Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation</i> , unless it is determined through a formal process that disturbance or natural deterioration is unavoidable.
Collections	All museum objects and manuscripts are identified and inventoried, and their significance is determined and documented. Collections are protected in accordance with established standards.

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at the National Lakeshore
Visitor Use and Experience	<p>Visitor and employee safety and health are protected.</p> <p>Visitors understand and appreciate national lakeshore values and resources and have the information necessary to adapt to the national lakeshore environments. Visitors have opportunities to enjoy the national lakeshore in ways that leave the resource unimpaired for future generations.</p> <p>Recreational uses in the national lakeshore are promoted and regulated. Basic visitor needs are met in keeping with the national lakeshore purposes.</p> <p>To the extent feasible, facilities, programs, and services in the national lakeshore are accessible to and usable by all people, including those with disabilities.</p>
Sustainable Design/ Development	<p>NPS visitor and management facilities are harmonious with national lakeshore resources, compatible with natural processes, aesthetically pleasing, functional, as accessible as possible to all segments of the population, energy efficient, and cost-effective.</p>
National Scenic Trail	<p>The national trails system act requires that motorized use of the North Country National Scenic Trail is prohibited, and NPS policy is that the trail be managed primarily for hiking and backpacking in accordance with the North Country National Scenic Trail's statement of purpose and desired future condition adopted by the National Park Service and the U.S. Department of Agriculture–Forest Service on November 6, 1998.</p>

PLANNING OPPORTUNITIES AND ISSUES

The general public, national lakeshore staff, and other agencies and organizations identified various issues and concerns during scoping for this general management plan. Comments were solicited at public meetings, through planning newsletters, and on the national lakeshore's web site.

Comments received during scoping demonstrated that there is much that the public likes about the national lakeshore — its management, use, and facilities. The issues and concerns generally involve determining the appropriate visitor use, types and levels of facilities, services, and activities while remaining compatible with desired resource conditions.

The general management plan provides a framework or strategy for addressing the issues within the context of the national lakeshore's purpose, significance, and mission goals. It also identifies desired resource conditions for both summer and winter use on the land and the water within the lakeshore boundary and desired visitor experiences. The analysis of the impacts that could result from actions proposed in the alternatives is included in chapter 4.

The following issues were identified during the scoping process:

NATIONAL LAKESHORE ACCESS, CIRCULATION, VISITOR ORIENTATION, AND CARRYING CAPACITY

Background. Patterns and types of visitor use have changed since completion of the 1981 *General Management Plan*. For example, sea kayak use on national lakeshore waters — virtually nonexistent in 1981 — occurs today. There is increased interest in motorized use of the public lands. At the same time, there is

concern about the noise and impact on resources and visitors from motorized use of public lands.

Some people wanted more national lakeshore access in general; others wanted access to be restricted. Some people commented that access to the shoreline should be available at more locations. Accessibility for the elderly and visitors with disabilities to the shoreline and specific sites such as the Au Sable Light Station was an issue for many. Also, most people felt either that current numbers of visitors were appropriate or that visitation should be limited or reduced.

Issue. Define and provide an appropriate balance of access, circulation, and visitor orientation and use throughout the national lakeshore. Determine an appropriate mix of visitor experiences, resource conditions, and support facilities.

The general management plan will address carrying capacity issues in the national lakeshore by describing desired visitor experiences, resource conditions, and appropriate support facilities through management prescriptions for the national lakeshore. The management plan will not develop standards or indicators for carrying capacity, nor will it develop a monitoring plan; that will be accomplished in a subsequent implementation plan.

SHORELINE AND INLAND BUFFER ZONES

Background. The enabling legislation created two zones within the national lakeshore boundary: the shoreline zone, owned by the federal government and managed by the National Park Service, and the inland buffer zone, a mixture of federal, state, and private ownership. Some people commented favorably on the existing legislated zones. A few

wanted the inland buffer zone to be eliminated. Respondents with residential or commercial interest in the inland buffer zone were concerned about their property rights and values as well as possible NPS restriction on their property and activities. Others said that development and noise-producing activities should be restricted to the inland buffer zone or areas outside of the lakeshore to permit a quieter, more natural experience.

Issue. Define how the shoreline zone and inland buffer zone are managed at Pictured Rocks National Lakeshore; identify the uses that are appropriate for each zone.

COUNTY ROAD H-58

Background. This road is the primary access to the national lakeshore. Some respondents wanted Alger County Road H-58 left as it is. Most want some level of improvements (gravel or paving). The majority of those wanting improvements favor a relatively narrow, two-lane, low-speed scenic road with a forest canopy. The paving of H-58 is going to affect the number and sizes of vehicles that use the national lakeshore. Both will increase. The National Park Service has no authority to perform maintenance services on H-58 or to provide funds for maintenance services. In general, the National Park Service does not have discretionary authority to provide local matching funds for H-58 improvement projects.

Issue. Determine what level of improvement, if any, is appropriate for Alger County Road H-58.

WILDERNESS

Background. Many people expressed a desire to retain the wilderness character of the national lakeshore but were opposed to a formally designated wilderness primarily because of restrictions on motorized access to

the area. Many others supported wilderness as a mechanism to retain the wild character of the central part of the national lakeshore.

Issue. Determine what part of the national lakeshore, if any, should be proposed for designation as wilderness.

DECISION POINTS

Decision points identify the key decisions that still remain to be made after all the mandates are considered. As with any decision-making process, there are key decisions that, once made, will dictate the direction of subsequent decisions. Based on public comments, the issues stated above, and agency concerns for this general management plan, two major resource conditions and visitor experience “decision points” were identified. This general management plan focuses on alternative ways of addressing these decision points.

Decision Point 1

Public lands in the Upper Peninsula provide a wide range of visitor opportunities and resource conditions. We need to define Pictured Rocks National Lakeshore’s role and relationship with other public agencies within the Upper Peninsula. Some people want a relatively wild, remote place requiring physical effort to experience it, while others want an easy, convenient place to visit. Others want some mix of these two. **What mix of experiences and resource conditions should Pictured Rocks National Lakeshore offer its visitors?**

Decision Point 2

There is concern among those commenting regarding what activities and development might occur in the congressionally defined inland buffer zone while still providing the

intended protection for the lakeshore zone. **What conditions for resource protection should exist in the inland buffer zone? How do we best manage congressionally authorized resource (timber) extraction, visitor activities, and development in the inland buffer zone so that these conditions are met?**

ISSUES NOT ADDRESSED IN THE GENERAL MANAGEMENT PLAN

Not all of the issues raised by the public are included in this general management plan. Other issues raised by the public were not considered because they

- were not feasible
- are already prescribed by law, regulation, or policy (see the “Servicewide Mandates and Policies” section)
- would be in violation of laws, regulations, or policies
- were at a level that was too detailed for a general management plan and are more appropriately addressed in subsequent planning documents

This section briefly describes each of these issues, and the basis for excluding them from this general management plan.

- *A suggestion was made to transfer jurisdiction of Grand Island Recreation Area from the U.S. Forest Service to the National Park Service.*
Congress established the National Recreation Area in 1989 and directed the U.S. Forest Service to manage it. The U.S. Forest Service will continue to manage Grand Island Recreation Area; therefore, no further options will be explored.
- *A suggestion was made that snowmobiles should be banned from Pictured Rocks National Lakeshore. Some people believe*

this ban should be implemented throughout the national park system.

Snowmobiles are permitted on designated portions of roadways and lakes in the national lakeshore. The designated routes for snowmobiles are the frozen waters of Lake Superior and Grand Sable Lake, and the major lakeshore roads that are also used by motorists in the summer. These routes and water surfaces are designated pursuant to 36 *Code of Federal Regulations* (CFR) Section 2.18, and were promulgated as special regulation under 36 CFR Section 7.32(a) in December 1982.

Much of the snowmobile use in the lakeshore occurs on roads that are not under NPS jurisdiction but do provide access to the NPS-designated routes. The routes not under NPS jurisdiction include but are not limited to H-58, Miners Castle Road, and Chapel Road. The national lakeshore has approximately 17 miles of designated routes under its jurisdiction. There are about 50 miles of snowmobile roads in the boundaries of the lakeshore that are not under NPS jurisdiction.

An Environmental Assessment and a Determination of Effects of Rules were conducted at the national lakeshore on snowmobile use in June 1982. These documents concluded that snowmobile use at the national lakeshore is consistent with the national lakeshore’s natural, cultural, scenic, and aesthetic values, safety considerations, and management objectives, and will not disturb wildlife or damage national lakeshore resources.

There are no current plans to change the snowmobile use policy at the national lakeshore.

- *A suggestion was made that hunting and logging should be banned from Pictured Rocks National Lakeshore.*
These uses are permitted within the inland buffer zone of the national lakeshore by the enabling legislation. Hunting is also permitted in the shoreline zone of the national lakeshore by the enabling legislation.
- *A suggestion was made that logging and ORV use should be allowed within the shoreline zone.*
These uses are prohibited on NPS lands by law.
- *A suggestion was made that trapping should be allowed on federally owned lands within the national lakeshore.*
Courts have determined that under existing law trapping is not a permissible activity on NPS lands and waters.
- *Suggestions were made that personal watercraft should be banned within the 0.25- mile portion of Lake Superior that is*

within the national lakeshore boundary to preserve the natural quiet.

A suit filed against the National Park Service by a national environmental group led to a court-ordered settlement that personal watercraft would be banned in all national parks and recreation areas by April 22, 2002, and September 15, 2002, unless the National Park Service can prove that they have adverse impacts. In response to the settlement, an environmental assessment to identify the impacts of personal watercraft at Pictured Rocks National Lakeshore was conducted. The decision was made that personal watercraft would be allowed to launch from a designated launch site (currently Sand Point) and operate on Lake Superior within the national lakeshore boundary from the western lakeshore boundary up to the east end of Miners Beach. Personal watercraft users would be allowed to beach their craft on Miners Beach. Personal watercraft would not be allowed to launch or operate elsewhere within the national lakeshore.

IMPACT TOPICS – RESOURCES AND VALUES AT STAKE IN THE PLANNING PROCESS

IMPACT TOPICS TO BE CONSIDERED

Impact topics allow comparison of the environmental consequences of implementing each alternative. Section 4.4 of Director's Order 12 states, in part,

Pursuant to the National Parks Omnibus Management Act and National Environmental Policy Act, NPS management decisions will be based on ample technical and scientific studies properly considered and appropriate to the decisions made.

These impact topics were identified based on federal laws and other legal requirements, NPS subject-matter expertise and knowledge of limited or easily impacted resources, and concerns expressed by staff of other agencies or members of the public during scoping. A brief rationale for the selection of each impact topic is given below.

Cultural Resources

The National Historic Preservation Act, the Archeological Resources Protection Act, the Native American Graves Protection and Repatriation Act, and the National Environmental Policy Act require that the effects of any federal undertaking on cultural resources be examined. Also, NPS *Management Policies*, *Cultural Resource Management Guideline* (Director's Order 28), and NPS *Museum Collections Management Guideline* (DO- 24) call for the consideration of cultural resources in planning proposals. Consideration of historic properties is required under the National Historic Preservation Act and is included in the "Servicewide Policies and Mandates" section. Actions proposed in this plan could affect archeological sites, historic

structures, cultural landscapes, ethnographic resources, and museum collections.

Natural Resources

Species of Concern. The Endangered Species Act of 1973, as amended, requires an examination of impacts on all federally listed threatened or endangered plant and animal species. Both the Endangered Species Act and NPS *Management Policies 2001* also mandate the protection of these species and their habitats – NPS activities must not jeopardize the existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat of such species.

Consultation with the U.S. Fish and Wildlife Service and Michigan Department of Natural Resources identified one federally endangered species (piping plover), three federally threatened species (gray wolf, Pitcher's thistle, and bald eagle), three species listed by the state as endangered, 15 species listed by the state as threatened, and 15 species identified as state species of concern. Thus, species of concern is warranted as an impact topic in this *General Management Plan and Wilderness Study / Environmental Impact Statement*.

On October 31, 2002, the U.S. Fish and Wildlife Service indicated that consultation was required on the general management plan based on §7 of the Endangered Species Act. In response to this, a biological assessment was prepared for the preferred alternative. This biological assessment is included in the *Final General Management Plan and Wilderness Study / Environmental Impact Statement* as appendix D.

Wilderness Resources and Values

Examine lands within the Chapel and Beaver Basins for characteristics that might make them eligible for consideration for wilderness designation.

Socioeconomic Resources

The National Environmental Policy Act requires an examination of social and economic impacts caused by federal actions. Alger County, and the cities of Munising and Grand Marais in particular, and other visitor service facilities and operators (e.g., tour boats, restaurants, and hotels) could be affected by actions proposed in this management plan. Impact topics include effects on the local economy and the county tax base.

Visitor Use and Experience

Providing for visitor enjoyment, understanding and stewardship is one of the fundamental purposes of the National Park Service. Many actions proposed in this management plan could affect patterns of visitor use and the type and quality of visitor experiences. Visitor access, orientation and interpretation, recreation, and visitor services (including camping and lodging) are specific elements of the visitor experience; however, the impacts in other topic areas could also directly affect visitor experience. Some actions proposed in this plan will impact the visitor experience. Impact topics include opportunities for recreational activities, access to primary national lakeshore features, noise, scenic character of County Road H- 58, and opportunities for visitors with disabilities.

National Lakeshore Operations and Facilities

The alternatives proposed in this plan could affect NPS operations and facilities in the

national lakeshore. Topics include operations, facilities, operational efficiency and emergency response time, and administrative access to the museum collection.

IMPACT TOPICS DISMISSED FROM FURTHER CONSIDERATION

Some impact topics that commonly are considered during the planning process were not relevant to this general management plan for Pictured Rocks National Lakeshore due to the following: (a) implementing the alternatives would have no discernible effect on the topic or resource or (b) the resource does not occur in the national lakeshore. These topics are as follows:

Sacred Sites

According to Executive Order 13007 on “Indian Sacred Sites” (1996) the National Park Service will accommodate, to the extent practicable, access to and ceremonial use of Indian sacred sites by religious practitioners from recognized Native American and Alaska native tribes and would avoid adversely affecting the physical integrity of such sacred sites. According to the study “Traditional Ojibway Resources in the Western Great Lakes” (draft; see the “Cultural Resources” section in the “Affected Environment” chapter of this document) several Ojibway tribes, including the Chippewa Tribe, have a cultural affiliation with lands in the national lakeshore, and some of these lands continue to be of spiritual and religious significance to the Chippewas. None of known sites that may potentially be important to the tribes would be affected by actions proposed in the alternatives in this document. Therefore, the impacts on sacred sites will not be analyzed.

Indian Trust Resources

The lands comprising Pictured Rocks National Lakeshore are not held in trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians. Therefore, this topic was not analyzed.

Coastal Processes

None of the management prescriptions or actions described in the alternatives would interfere with natural coastal processes. Shoreline stabilization has been required at Sand Point and Grand Marais to protect historic properties or other structures, and may be required in the future. Such stabilization would have no broad effects on coastal processes, either in or outside the lakeshore. Actions in the general management plan will have no adverse effects upon cave resources.

Coastal Zone Management

Michigan established a coastal management program in response to the Coastal Zone Management Act (1972). The Michigan program was developed to: improve protection of sensitive shoreline resources, identify coastal areas appropriate for development, designate areas hazardous to development, and improve public access to the coastline. The program includes grants, administration of sections of Michigan's Natural Resource and Environmental Protection Act that are related to coastal resources (1994 PA 451), and review of federal agency activities for consistency with Michigan's approved program. The three elements of the Coastal Management Program — high- risk erosion areas, flood risk areas, and environmental areas — provide consumer protection from the natural hazards of coastal erosion and flooding as well as environmental protection.

There are no high- risk erosion areas, flood risk areas, or environmental areas identified

by Michigan Department of Environmental Quality within the national lakeshore (Martin Jannereth, Land and Water Management Div., Great Lakes Shorelands section chief, 4/5/01). The National Park Service proposes no development in any area of the national lakeshore that would conflict with the coastal management program.

Wild and Scenic Rivers

The Miners River and the Mosquito River in Pictured Rocks National Lakeshore are listed on the Nationwide Rivers Inventory (NRI) prepared by the National Park Service. This inventory is a register of rivers that may be eligible for inclusion in the national wild and scenic river system. These rivers were included on the inventory based on the degree to which they are free flowing, the degree to which the rivers and their corridor are undeveloped, and the outstanding natural and cultural characteristics of the rivers and their immediate environments. Section 5 (d) of the National Wild and Scenic River Act (Public Law 90- 542) requires that, "In all planning for the use and development of water and related land resources, consideration shall be given by all federal agencies involved to potential national wild, scenic and recreational river areas." In partial fulfillment of the section 5 (d) requirements, the National Park Service has complied and maintains the Nationwide Rivers Inventory.

The intent of the inventory is to provide information to assist in making balanced decisions regarding use of the nation's river resources. A presidential directive and subsequent instructions issued by the Council of Environmental Quality, and codified in agency manuals, requires that each federal agency, as part of its normal planning and environmental review process, take care to avoid or mitigate adverse effects on rivers identified in the inventory.

A 9-mile long segment of the Miners River between County Road H- 58 and its mouth at Lake Superior is included on the Nationwide Rivers Inventory because of its recreational, fish, and wildlife values.

A 6.5-mile long segment of the Mosquito River from Section 17, T48N, R17W to its mouth with Lake Superior is included on the inventory because of its scenic, recreational, geologic, and fish values.

No actions proposed would impact the values for which the rivers were included on the National Rivers Inventory or prevent their future designation as wild or scenic rivers.

Vegetation and Plant Communities

Implementation of the management prescriptions or actions identified in the alternatives would result in minor changes in vegetation or plant communities within the lakeshore. Some actions might require clearing, but such clearing would be small scale and local. Clearing associated with county road improvements is addressed in the “Impacts on Visitor Experience” sections. Land in the inland buffer zone would continue to be managed as commercial timber. Because there would be little if any change in vegetation and plant communities within the lakeshore, this topic is not included in the analysis. Specific actions will require further analysis before implementation.

General Wildlife

The management prescriptions and specific actions associated with each alternative have been evaluated with regard to effects on common wildlife species within the national lakeshore. NPS biologists have determined there would be little if any effect on common wildlife species. No dramatic changes on habitat, resident or migratory populations, or the diversity of general wildlife species within the national lakeshore would be expected.

Water Quality

Two issues related to water quality were raised during the scoping process: (1) the effect of a fuel spill on inland lakes within the lakeshore and (2) sedimentation downstream of road crossings. Consultation with the Michigan Department of Environmental Quality (Great Lakes and Environmental Assessment Section, Surface Water Quality Division, Bill Taft, pers. comm. 1/27/00 and 4/12/00) revealed that the probability of a spill of a quantity that would cause widespread harm is extremely low, and if such a spill were to occur, emergency response measures would be implemented to minimize the effects. The National Contingency Plan considers a minor spill to be less than 1,000 gallons. It is unlikely that a spill in the national lakeshore from small boats would exceed 5 gallons.

Consultation with the Michigan Department of Natural Resources fisheries biologist (Jim Waybrant, Fisheries Habitat Biologist, Newberry Operations Service Center, pers. comm. 4/12/01) indicated that sedimentation from road crossings occurs, but is not a significant factor affecting spawning by anadromous fish. Therefore, this topic is not included as an impact topic.

Wetlands

An assessment of the management prescriptions and actions indicated that although there are many wetlands in the national lakeshore, there is no indication that they would be affected by management prescriptions or actions. Before initiating any ground-disturbing projects, further investigation would be conducted to ensure that no wetlands would be affected. This topic is not included as an impact topic.

Unique Landforms

Grand Sable Dunes is a designated critical dune area by the Michigan Department of Environmental Quality. Any actions that would result in adverse impacts on the dunes have been eliminated. For this reason, unique landforms is not included as an impact topic.

Prime and/or Unique Farmland

The Farmland Protection Policy Act (PL 97-98) (1981) was passed to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to ensure that federal programs are administered in a manner that, to the extent practicable, is compatible with state, unit of local government, and private programs and policies to protect farmland. Farmland categories include prime, unique, or land of statewide or local importance.

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion. Unique farmland is land other than prime farmland that is used for production of specific high-value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high-quality or high-yields of specific crops when treated and managed according to acceptable farming methods. Examples of such crops include citrus, tree nuts, olives, cranberries, fruits, and vegetables.

Farmland, other than prime and unique, that is of statewide or local importance for the production of food, feed fiber, forage, or oilseed crops, as determined by the state or local government, is also considered farmland for purposes of the act.

The National Park Service consulted with the Department of Agriculture's Natural Resource Conservation Service (Chuck Schwenner, Soil Scientist, 4/12/01), the agency responsible for implementation of the policy. The Natural Resource Conservation Service identified one area of about 30 acres that is classified prime farmland. This area is in federal ownership and would not be developed under actions proposed in this plan.

There are several areas in the inland buffer zone that if drained would be prime farmland. These small areas are near the Miners River Road and Carmody Road. These lands are privately owned and zoned by Alger County to allow single-family dwellings on lots of 10-acre minimum. Permitted land use includes sustained yield timber harvest, agricultural production operations (crop cultivation, pasture, orchards, farmstead, and similar uses [except feedlots, poultry farms, and fur farms]), and outdoor recreation uses such as hunting, fishing, and trapping. These areas would not be developed under county zoning regulations or the actions proposed in this plan.

Development in Floodplains

Executive Order 11988, "Floodplain Management," was implemented to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. The order requires that agencies avoid the base floodplain (100-year or 1%) unless it is the only practicable alternative or adjust the base floodplain to reduce the hazard and the risk of flood loss, minimize the impact of floods on human safety, health, and welfare, and restore and preserve the natural and beneficial floodplain values. The National Park Service established policies and procedures for implementing the order which include limiting the construction of

administrative, residential, warehouse, and maintenance buildings, or other man-made features, which by their nature entice or require individuals to occupy the site, are prone to flood damage, or result in impacts on natural floodplain values. Also limited are (1) the development of schools, hospitals, clinics, or other facilities that are occupied by people with physical or medical limitations, (2) fuel storage facilities, (3) sewage treatment plants that treat 40,000 gallons per day or more, (4) the storage of toxic or water-reactive materials, including hazardous materials, (5) irreplaceable records, museums, the storage of archeological artifacts, and (6) emergency services within the 500-year (0.2%) floodplain. The order and NPS policy also direct special consideration of areas subject to flash flooding and coastal high hazard areas.

None of the actions in any of the alternatives would result in development in floodplains or high-hazard areas or increase the risk of loss of life and property from flood damage. Natural and beneficial floodplain values would not be affected because there would be no modification of floodplain areas.

Soil

Although there would be short-term disturbance of soil associated with road construction or improvements or proposed development, the extent is confined to very specific areas. Road improvements would reduce erosion potential and dust associated with bare soil as road base. The erosion potential is generally low because the topography is relatively level and the degree of vegetative cover is very high. The application of appropriate best management practices, such as silt fencing, prompt revegetation, and slope consideration, as identified by Michigan Department of Environmental Quality, would control and mitigate construction impacts to be negligible. Disturbance would take place on very specific sites of limited area or along narrow corridors associated with roads. The

total developed area of the lakeshore would be very low, so permeability and runoff would not be affected to a noticeable degree.

Geologic Hazards

There are no specific geologic hazards, such as earthquakes, volcanoes, or landslides. There is potential for cliffs and other areas to collapse into Lake Superior as part of the natural erosion process. None of the actions analyzed in this management plan would affect this natural process. Therefore, this topic has been dismissed from further consideration.

Air Quality

Air quality in the national lakeshore meets national ambient air quality standards for specified pollutants. Although actions proposed in this plan could result in short-term minor effects related to dust and emissions associated with construction and road improvements, no long-term change in air quality associated with these actions would be expected (Brian Brady, Michigan Department of Environmental Quality, Environmental Quality Manager, Marquette District, pers. comm. 3/20/01).

Fire

Woodland fire is infrequent in northern hardwood forests, the predominant forest type in the national lakeshore. Pine forests are subject to more frequent lightning-caused fires, on an average 23-year interval (Loope 1998). There is evidence of a similar frequency on small coastal pine forests (500 acres or less) associated with human habitation or use (Loope 1998). The fire frequency at the national lakeshore is one or fewer naturally caused fires each year that burn 1 acre or less; these fires usually extinguish themselves.

The new campground proposed in some of the alternatives might increase the potential for human-caused fire. However, the likelihood of this occurrence would be low because campground design and use restrictions would minimize the risk and because resource management policies for the national lakeshore call for prompt suppression of wildfires. Therefore, this topic is not included as an impact topic.

Transportation

The transportation infrastructure would not change significantly within the lakeshore with implementation of any of the alternatives in this document. There are no proposals for primary or secondary road construction in this plan that would increase the extent of the transportation system in the vicinity of the national lakeshore. Some alternatives in this management plan consider road improvements and the construction of some additional roads to provide or improve access and visitor experience; specific improvements to the Alger County road system by the county are also encouraged. The effects are fully analyzed in the other impact topics discussed.

Energy Requirements and Conservation Potential

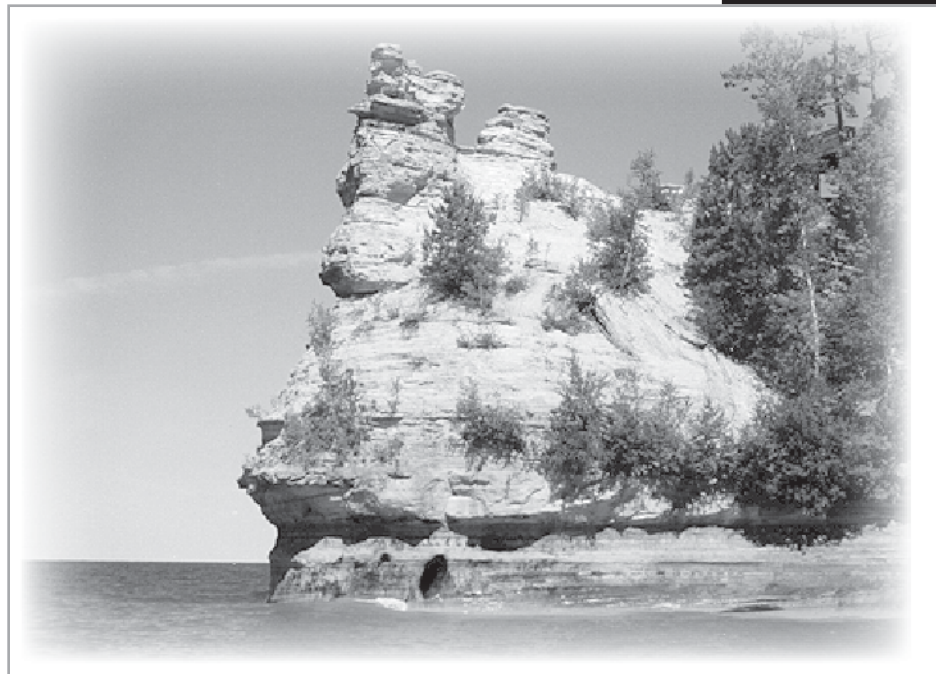
None of the alternatives presented in this plan would result in a major change in energy consumption compared to current conditions. The National Park Service would pursue sustainable practices whenever possible in all decisions regarding national lakeshore operations, facilities management, and development in Pictured Rocks National Lakeshore. Whenever possible, the National Park Service would use energy conservation technologies and renewable energy sources.

Environmental Justice

Executive Order 12898 requires federal agencies to identify and address disproportionately high and adverse human health or environmental effects of federal programs and policies on minority and low-income populations and that these programs and policies do not discriminate against people (including populations) because of race, color, or national origin. None of the actions proposed in this management plan would have disproportionate or adverse impacts on minorities or economically disadvantaged populations. Therefore this impact topic has not been analyzed.

Chapter 2

ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE



INTRODUCTION

INTRODUCTION TO THE ALTERNATIVES

This *Final General Management Plan and Wilderness Study / Environmental Impact Statement* presents five alternatives, including the National Park Service's preferred alternative, for future management of Pictured Rocks National Lakeshore. The five alternatives are the no-action alternative (continuation of existing management), the NPS preferred alternative, alternative A, alternative C, and alternative E. Two other alternatives were presented to the public in *Newsletter 3*. Alternative B was dropped (see the "Actions and Alternatives Dismissed from further Consideration" section). Alternative D was modified to create the preferred alternative.

The alternatives, which are based on the national lakeshore's mission, purpose, and significance, present different ways to manage resources and visitor use and improve facilities and infrastructure at the national lakeshore. The no-action alternative also serves as a baseline for comparing the environmental consequences from implementing each alternative.

This chapter also describes the planning process used by the planning team, and it includes tables that summarize the key differences between the alternatives and the key differences in the impacts that are expected from implementing each alternative. The summary of impacts table is based on the analysis in Chapter 4, "Environmental Consequences."

FORMULATION OF THE ALTERNATIVES

Many aspects of the desired future condition of Pictured Rocks National Lakeshore are defined in the establishing legislation, the national lakeshore purpose and significance

statements, and servicewide mandates and policies that were described earlier. Within these parameters, the National Park Service solicited input from the public, national lakeshore staff, government agencies, tribal officials, and other organizations regarding issues and desired conditions for the national lakeshore. The first opportunity for public comment was at the beginning of the general management plan project in August 1999. About 300 comments were received. Planning team members gathered information about existing visitor use and the condition of the national lakeshore's facilities and resources. They considered which areas of the national lakeshore attract visitors, and which areas have sensitive resources.

Using the above information, the planning team developed nine management prescriptions for guiding the preservation, use, understanding and development of Pictured Rocks National Lakeshore and its resources. The management prescriptions are applied in varying combinations and locations in the alternatives. These prescriptions, described in the following section, form the basis of the plan's alternatives.

The planning team developed four alternatives and the no-action alternative to reflect the range of ideas proposed by the national lakeshore staff and public. Each of the alternatives consists of an overall management concept and general management strategies and a description of how different areas of the national lakeshore would be managed (management prescriptions and related actions).

The preferred alternative and alternative E also explore different possibilities for wilderness. In these alternatives management is the same for the east and west ends of the lakeshore to simplify the alternatives and focus attention on wilderness opportunities in the middle portion.

As noted above in the "Guidance for Planning" section, the National Park Service would continue to follow existing agreements and servicewide mandates, laws, and policies under all alternatives considered in this plan. These mandates and policies are not repeated in this chapter. However, other general management plan proposed actions *do* differ among the alternatives. These alternative actions are discussed in this chapter.

The alternatives focus on *what* resource conditions and visitor experiences/opportunities should be at Pictured Rocks rather than on details of *how* these conditions and experiences should be achieved. Thus, the alternatives do not include details on resource or visitor use management techniques. More detailed plans or studies will be required before most developments proposed in the alternatives are built. The implementation of any alternative also depends on future funding and environmental compliance and resource protection issues. This plan does not guarantee that that money will be forthcoming. The plan establishes a vision of the future that will guide day-to-day and year-to-year management of the national lakeshore, but full implementation could take many years.

These five alternatives embody the range of what the public and the National Park Service want to see accomplished with regard to visitor use and experience, natural resource conditions, and cultural resource conditions at Pictured Rocks National Lakeshore. The actual configurations for future national lakeshore conditions and management within each alternative were developed by placing the management prescriptions (described in the next section) on a map.

In some cases, all four action alternatives apply the same management prescription to the same area. For example, the orientation/history management prescription is similar for each alternative because this seems to be the most appropriate way to manage these facilities, regardless of the alternative selected.

DEVELOPMENT OF GMP COST ESTIMATES

NPS decision makers and the public must consider an overall picture of the complete costs and advantages of various alternatives, including "no action," to make wise planning and management decisions for the national lakeshore. This can shed light on the cost of the no-action alternative and allow a more legitimate comparison to the action alternatives.

It is important that the cost estimates contain the same elements and are developed with the same general assumptions so there can be consistency and comparability among alternatives. Development of life-cycle costs provides a way to combine one-time and recurring costs (such as annual operating costs) into comparable numbers. Comprehensive life-cycle cost estimates are a key factor to be used along with impacts and advantages of the various alternatives during the process of selecting a preferred alternative.

Life-cycle costing is an economic assessment of different alternatives, considering all significant costs over a specified period of time, expressed in equivalent dollars. Life-cycle costs reflect the aggregated initial-one-time costs and recurring costs into the future over a period of time. The National Park Service uses a time period of 25 years to project life-cycle costs in design and construction, and that is also a reasonable amount of time for evaluating general management plan alternatives. The present worth method is used to convert present and future expenditures into an equivalent expenditure today. This method is based on the time value of money, or the principle that a dollar spent today is worth more in the future because if it was invested it would yield a return. To calculate the present worth of future annual and recurring (replacement) expenditures, the life-cycle costs are calculated using a "discount rate" that is an assumed rate of return. The National Park Service uses a discount rate of 7%.

The main components of life-cycle costing are as follows:

Initial One-Time Costs

- new development (including NPS transportation infrastructure costs)
- major rehabilitation or replacement of existing facilities and infrastructure
- interpretive media (audiovisual, exhibits, waysides, publications)
- resource management and visitor service costs (resource and visitor inventories, implementation planning, compliance)
- other significant one-time costs, such as removal of development, purchase of transportation equipment, restoration of resources, action on specific implementation plans or major compliance needs.

Recurring or Replacement Costs

These are significant anticipated costs that recur at intervals (other than annual) within the life-cycle cost time period of 25 years. Examples might be if the National Park Service is supplying bus equipment that will be replaced every eight years, or constructing temporary yurt structures that will be replaced every 12 years.

Recurring Annual Costs

- annual national lakeshore operating costs (staff salary and benefits, equipment, maintenance, utilities, monitoring, contact services, etc.)
- ongoing repair and rehabilitation of facilities (projection of past trends and known future needs into an annual estimate)

IMPLEMENTATION OF THE APPROVED MANAGEMENT PLAN

Actions requiring construction to implement the intentions of the approved management plan will require funding, design, environmental analysis, and public involvement before implementation.

BOUNDARY ADJUSTMENTS

A boundary adjustment would not be considered under any alternative. If land were to become available at Coast Guard Point in the future, a boundary study would be required.

LAND ACQUISITION / TRANSFERS

Under all alternatives, the National Park Service would attempt to acquire outstanding mineral rights on federally owned lands.

The federal government would continue to pay PILT (payment-in-lieu of taxes) payments to Alger County based upon a government-wide formula and the number of acres that were withdrawn from county tax rolls as the result of past federal acquisition.

At Coast Guard Point in Grand Marais the land is owned by the National Park Service, Army Corps of Engineers, and United States Coast Guard. Under all alternatives, should the land from the Army Corps of Engineers and United States Coast Guard (about 7.5 acres) ever become available, the National Park Service would be interested in acquiring it to develop a day use area. (This area developed for day use would exclude critical habitat for the piping plover.)

Under the action alternatives (preferred, A, C, and E), the National Park Service will consider land acquisition within the inland buffer zone if the land is available (including donations), if there are willing sellers, and if federal funds

are available. In addition, the transaction must meet at least one of the following criteria:

- Lands protect key viewsheds, particularly those associated with proposed designated wilderness area.
- Lands protect scenic views adjacent to or associated with the Lakeshore's backcountry trail system.
- Lands emphasize riparian area acquisition (including shoreline and headwaters).
- Lands have potential for imminent development that may be deemed detrimental to national lakeshore resources and values.
- Lands have documented threatened or endangered species or their habitat.
- Lands represent the breadth of biotic diversity.

Lands offered to the National Park Service outside of the existing park boundary would be evaluated through a separate boundary assessment process. Expansion of the legislated boundary requires action by Congress.

WILDERNESS STUDY

To help understand how wilderness areas can be used by the public, the following page defines uses, management actions, and facilities in wilderness areas that are permitted or prohibited.

Findings

Federally owned lands and waters within the legislated boundary of Pictured Rocks National Lakeshore have been evaluated with respect to the characteristics of wilderness as defined by the Wilderness Act of 1964 (P.L. 88- 577, 16 U.S.C. 1131- 1136). This study has identified 18,063 acres of the national lakeshore that possess wilderness characteristics. This land consists of 5,220 acres in Chapel Basin and 12,843 acres in Beaver Basin. All of the lands and waters in the study area are in federal (National Park Service) fee- simple

ownership. The study area includes federally owned portions of Township 47 North Range 18 West, Township 48 North Ranges 16, 17, and 18 West, and Township 49 North Range 16 West (see Wilderness Study Area map). The land is in Alger County, Michigan.

By definition,

A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural condition and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

Wilderness Act of 1964, P.L. 88- 577,
Section 2. (c)

The Wilderness Act criteria and how they apply to the national lakeshore have been divided into sections for ease of understanding.

Untrammelled. Although altered by logging in historic times, Beaver and Chapel Basins represent a significant area that has returned to natural conditions and shows little evidence of past influences.

Primeval character and influence. Although there is some evidence of historic use as a corporate retreat in the Beaver Lake

USES AND MANAGEMENT IN WILDERNESS

Although this study is not examining use or management of wilderness, the Wilderness Act and NPS policies permit and prohibit various uses, developments, and actions. These directions need to be considered in evaluating the impacts of the wilderness proposals.

Various recreational uses, management actions, and facilities are permitted in wilderness areas under the Wilderness Act and NPS policies. Among the uses, management actions, and facilities **permitted** in wilderness are:

- nonmotorized recreational uses (e.g., hiking, backpacking, picnicking, camping)
- hunting, trapping, and fishing
- Native American religious activities and other actions recognized under treaty- reserved rights
- guided interpretive walks and onsite talks and presentation
- use of wheelchairs, service animals, and reasonable accommodations for the disabled that are not in conflict with the Wilderness Act (e.g., barrier- free trails, accessible campsites)
- scientific activities/research
- monitoring programs
- management actions taken to correct past mistakes or impacts of human use, including restoration of extirpated species, controlling invasive alien species, endangered species management, and protection of air and water quality
- fire management activities (including fire suppression)
- protection and maintenance of historic properties eligible for the National Register of Historic Places
- trails
- campsites
- certain administrative facilities if necessary to carry out wilderness management objectives (e.g., storage or support structures, ranger station)
- signs necessary for visitor safety or to protect wilderness resources
- uses and facilities permitted for landowners with valid property rights in a wilderness area

The Wilderness Act also specifically **prohibits** certain uses and developments. Under sections 2(c) and 4(c) of the act, the following uses are not permitted in a wilderness:

- permanent improvements or human habitation
- structures or installations
- permanent roads
- temporary roads
- use of motor vehicles
- use of motorized equipment
- landing of aircraft (except for emergency purposes)
- other forms of mechanical transport (e.g., bicycles)
- commercial enterprises (except for commercial services that are necessary for realizing the recreational or other wilderness purposes of the area, such as guiding and outfitting)

With the exception of permanent roads, the act does recognize that the above uses **may be permitted** if necessary to meet the minimum requirements for the administration of the area as wilderness or for emergency purposes.

In addition to the above prohibitions, NPS policies **also prohibit** some developments:

- new utility lines
- permanent equipment caches
- site markings or improvements for nonemergency use
- borrow pits (except for small quantity use of borrow material for trails)
- new shelters or public use
- picnic tables
- interpretive signs and trails and waysides (unless necessary for visitor safety or to protect wilderness resources)

area (structures have been removed), all the land identified in the study area exhibits a primeval character. Management of the land identified in the study area has focused on maintaining the primitive character, and human habitation or permanent improvements have not been permitted.

The imprint of man's work substantially unnoticeable. The Little Beaver Lake road and the small campground are the only improvements readily noticeable, and are outside the wilderness boundary. There are several small dams upstream of Beaver Lake that were associated with the Michigan-Wisconsin Pipeline Company corporate retreat.

Protected and managed so as to preserve its natural conditions. Since the 1981 *General Management Plan* for the national lakeshore was prepared, Beaver and Chapel Basins have been managed as primitive areas to preserve their natural condition.

Outstanding opportunities for solitude or a primitive and unconfined type of recreation. Opportunities for solitude and a primitive and unconfined recreation experience are very high in Beaver and Chapel Basins. Wilderness values are diminished to a minor degree by noise from motorized watercraft on Lake Superior, logging, and vehicles in the Little Beaver Lake campground.

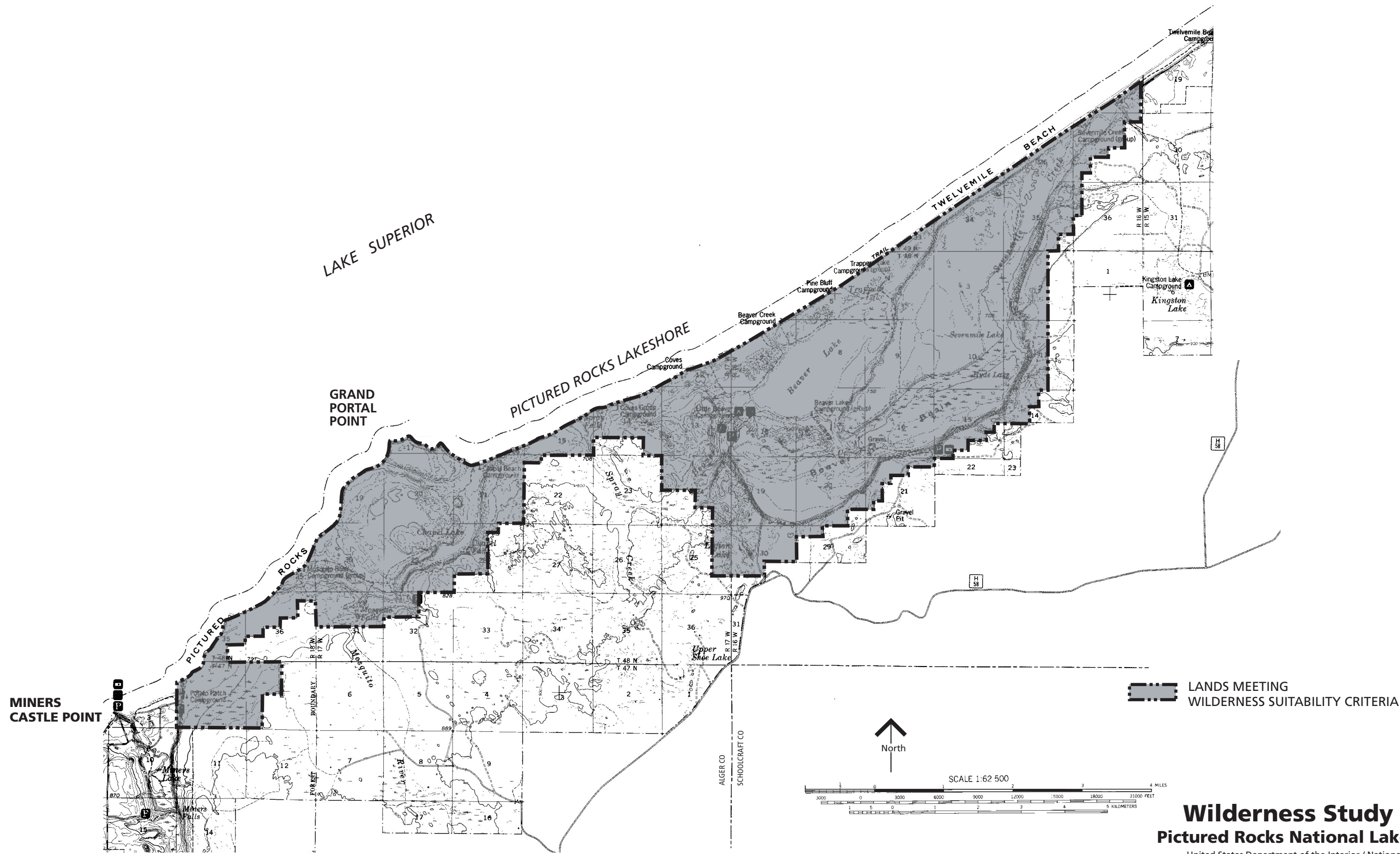
Description of Study Area

Physical and Resource Values. The area containing wilderness characteristics is centered on 761- acre Beaver Lake, 39.5- acre Little Beaver Lake, and 62- acre Chapel Lake. These are two of the major drainage systems of the national lakeshore. The Beaver and Chapel basins were formed in eroded sands by meltwater channeling to an outlet of ancient Lake Minong following a glacial ice sheet retreat circa 10,000 B.P. The basins open to

Lake Superior, which defines the study area's northern boundary. Dissected uplands bound the Beaver Basin on the west and a series of escarpments representing a face of the melt-water channel (the Beaver Basin escarpment) essentially define the northeast, east, and southern boundaries of the unit. A complex of beach ridges with a mantle of dune deposits lies north of Beaver Lake separating that body of water from Lake Superior. These forested beach ridges cover an area of approximately 1,100 acres. The Chapel area is bounded by extensive wetlands to the south and sandstone cliffs reaching a height of 200 feet along the Lake Superior shore to the north.

The dominant vegetative cover type of the study area is maple/beech with interspersed coniferous (spruce and fir) forest in wetter areas and pockets of white pine and hemlock on drier soils. Although logged during the first 60 years of the 1900s, in many areas the forest is regaining old-growth characteristics. In other areas, pockets of forest openings mark the physiography, the most notable being along the southeast shoreline of Beaver Lake. Remaining forests are maturing and will likely become old growth. Nonnative invasive plant species are not widespread, and efforts to control these species are underway. Several tributary streams to Beaver and Chapel Lakes flow to those water bodies from wetlands adjacent to or immediately below the escarpments. The most significant streams are Beaver Creek, which flows to Lake Superior as an outlet from Beaver Lake, and the Mosquito River, which drains extensive wetlands south of the study area. The Sevenmile Creek and Sevenmile Lake drainage and its pockets of wetlands and water bodies dominate the eastern portion of the study area, the most noteworthy being Trappers Lake (48 acres).

The study area provides habitat for a number of important animal species including gray wolf (*Canis lupus*), moose (*Alces alces*), American bald eagle (*Haliaeetus leucocephalus*), black bear (*Ursus americanus*), fisher (*Martes pennanti*), American marten (*Martes*



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americana), peregrine falcon (*Falco peregrinus*), and northern goshawk (*Accipiter gentilis*).

Aquatic systems in the study area are important resources with Sevenmile Creek and Mosquito River being part of a Lake Superior-wide coaster brook trout (*Salvelinus fontinalis*) restoration program. Major lakes and their tributaries possess a wild character. River otter (*Lontra canadensis*) and beaver (*Castor canadensis*) frequent the area, and a recent study has discovered viable populations of freshwater mussels and sponges in Beaver and Chapel Lakes.

Long-term vegetation, avian, and aquatic monitoring is underway or planned within the study area as part of a lakeshore-wide inventory and monitoring science and natural resources program. Other research includes black bear distribution, habitat use and harvest effects, and bald eagle productivity and blood toxicology.

Administrative Facilities. The Chapel and Beaver Basin study areas contain a network of maintained hiking trails emanating from the Chapel and Beaver Lake day use parking area. About 41 miles of hiking trails are included in this area, including 20 miles of the North Country National Scenic Trail. Many of these trails were originally rough four-wheel drive logging access roads prior to the establishment of the national lakeshore. These former two-tracks have largely grown in with native vegetation, presenting today the appearance of a trail

In addition, the area also includes three backcountry campgrounds, one of which is a group campground. A total of 41 individual and 5 group backcountry sites are available in these areas.

The Chapel day use parking area (37-vehicle capacity) is adjacent to the study area, providing a portal to this section of the park's backcountry. The site includes a vault type

toilet, bulletin board, and one wayside interpretive exhibit.

The Chapel study area also includes remnant four-wheel drive logging roads. A road enters the area from the Chapel access road about 0.1 mile south of the national lakeshore fee boundary (shoreline zone) in the southeast quarter of the northwest quarter of section 32. The logging road traverses westerly through sections 32 and 31, crossing Mosquito River en route. The entire length of this and three other connecting logging roads is about 1.75 miles.

The Beaver Basin study area contains an unimproved and nonmaintained administrative road to the site of the former corporate hunting and fishing lodge complex on the southeast shoreline of Beaver Lake. The road enters the area from the basin escarpment in the SE quarter of the SE quarter of Section 16, Township 48N, Range 16W, and extends for a distance of about 1.75 miles. This single lane roadway is being allowed to revert to the surrounding natural landscape conditions. A two-stall wood frame garage structure associated with the former corporate camp is adjacent to the road and about 1 mile from its beginning at the escarpment. This garage — formerly used to store some park equipment — is identified for removal. This building has been determined to be ineligible for listing in the National Register of Historic Places.

The Little Beaver development includes an overnight and day use backpacker parking area (20-vehicle capacity), which is adjacent to the study area providing a portal to this section of the park's backcountry. The area also includes Little Beaver Lake campground with eight sites. The campground development includes a four-vehicle boat ramp parking area. The site includes a vault type toilet, bulletin board, and a 1-mile self-guiding interpretive trail. These are nonconforming uses and would have to be removed if the area around the Little Beaver Lake campground were proposed for wilderness.

Public Recreational Use. The Chapel and Beaver Basin areas are managed as ‘back-country.’ Public recreational use centers on overnight hiking, backpack camping, day hiking, and trail walking. A system of seven backcountry campgrounds (41 sites, 5 of which are group sites), accessible only by foot or by watercraft, is within the study area. Camping numbers and level of intensity are managed with a permit system as part of the NPS recreational fee demonstration program. A system of hiking trails provides the principal means of access within the Chapel and Beaver Basins.

A 37-car day use parking area is adjacent to the Chapel Basin portion of the study area. The Chapel parking lot provides a portal into the adjacent backcountry area. In the Beaver Basin area, an eight site vehicle accessible (drive-in) campground with associated boat launching ramp and backpackers parking area provides a portal into the area. Other uses in the Beaver Basin include canoeing, fishing, and boating, primarily on Little Beaver and Beaver Lakes.

Most recreation use of the area occurs from Memorial Day to Labor Day, consisting of overnight backpacking and day hiking. Hike-in fishing occurs infrequently on Chapel and Little Chapel Lakes. Fishing in the Mosquito River for trout is popular with anglers spring through fall.

Fishing on Beaver Lake in particular is popular throughout the year, especially during the spring and fall seasons. In the Sevenmile Creek and Lake portion of the area, spring and fall stream fishing associated with seasonal salmon runs results in a spike of recreational use at those locations. Nonmaintained two-track (former logging) roads currently open to the public in the Mosquito River and Sevenmile Creek areas provide limited vehicular access combined with nonmaintained trails to the most popular fishing locations. Some hike-in fishing of the ponds and streams elsewhere in the area also occurs. Brook trout

is the targeted species at those locations. Motorized watercraft use (10-hp limit) is currently permitted on the interconnected Beaver and Little Beaver Lakes. Motorized watercraft use on all other waters in the Beaver Basin is prohibited.

Hunting for ruffed grouse, migratory waterfowl, white-tailed deer, and black bear occurs throughout the Beaver Basin as permitted by the park’s enabling legislation. (PL 89-668, Sec. 5. “*In administering the lakeshore the Secretary shall permit hunting and fishing on lands under his jurisdiction in accordance with the applicable laws of the United States and of Michigan.*”)

Evidence of Past Human Use. The study area encompasses portions of a regional landscape identified as culturally important to several Native American groups. The waters of Chapel, Little Beaver, and Beaver Lakes and their environs are of special importance to the Ojibwa of the region. A May 2001 report of *Traditional Ojibway Resources in the Western Great Lakes*, conducted by the University of Arizona at Tucson, discusses in greater detail the importance of the national lakeshore landscape including that of the study area to the Ojibwa people. Additionally, high cliffs, rock promontories, creek mouths, and other natural features are also important to the Ojibwa cosmology.

Archeological resources in the study area are comprised of 19 state-registered pre-historic habitation, hunting camps, and historic camps associated with turn of-the-century through 1970s use by local residents and loggers.

Several of the recorded archeological sites in the study area are related to prehistoric (Archaic and Woodland) and historic habitation sites. Most of those sites are associated with creeks, inland lakes, and the Lake Superior shoreline. None of these resources have been fully assessed or investigated.

The most notable logging era resource still visible is the remnants of an early 1900s logging dam constructed at the mouth of Beaver Creek. The dam raised the water level of Beaver Creek and Beaver Lake permitting the movement of some timber out of the Beaver Basin to the Lake Superior shoreline. Notable historic logging campsites are situated along Sevenmile Creek and on the south shoreline of Beaver Lake adjacent to Lowney Creek.

One historic log cabin structure, dating from the 1940s, is along the trail to the Mosquito backcountry campground (about .25 miles north of the Chapel parking lot). The cabin is not listed on the National Register of Historic Places, nor does park staff believe it to be eligible. There are no other visible cultural sites within the area.

A number of former privately owned “camp” sites comprised of small cabins were present throughout the basin notably in the Sevenmile Creek, Trappers Lake, and Beaver Creek areas of the national lakeshore. All were removed subsequent to the NPS acquisition of the properties. The last structure was removed in 1985. There remains no physical evidence of any structures. Most notable among these is the Hall family use of the area as a fishing and hunting locale. Extensive journals from the Hall family record the historic scene and use of the area in the late 1880s through the turn of the century. Copies of the journals are maintained in the national lakeshore museum collection.

Before the October 15, 1966, enactment of PL 89-668 and the initiation of NPS land acquisition actions at the national lakeshore, the Michigan-Wisconsin Pipeline Company had acquired and assembled during the period 1958-66 a tract of about 2,000 acres of land and had acquired or constructed facilities as a corporate employee retreat (camp) within the Beaver Basin. Their facility development included stream impoundments for fishing, a system of improved two-track roads linking

deer feeding stations, and lodges and related support services buildings centered along a portion of the southeast shoreline of Beaver Lake. Upon completion in 1974 of the acquisition of these lands and properties by the National Park Service, removal of the structures began. With the exception of a two-stall service garage once used by the National Park Service for storage and now slated for removal, all of the buildings associated with the camp were removed by the spring of 1983. Several of the impounded stream ponds remain in evidence, though to the untrained eye the most significant ones now appear natural. The low head earthen dams are being used as a base for beaver dams at several locations. A small (less than 5 acres) sand and gravel borrow pit associated with the company’s camp is evident adjacent to the current NPS administrative road leading to the site from the escarpment.

Timber within the Chapel and Beaver Basins was selectively harvested by corporate, other private, and state of Michigan owners before NPS acquisition. Most harvesting occurred during the late 1940s to late 1950s, with none taking place after 1965. Today, in combination with pockets of timber believed to be virgin or not harvested since the early 1900s, the forested landscape is reestablishing old-growth structure and function.

The most noticeable evidence of human use of the area is the NPS system of trails, rustic wood bridge stream crossings, and back-country (walk-in) campsites with associated wood routed trail intersection/directional signs. Many of these trail sections were formerly logging era two-tracks or vehicle use routes associated with the corporate or other private landowner camps. In accordance with NPS management prescriptions for the back-country, those roads were converted to trails.

Mining Claims. There are no mining claims in the study area. There are oil and gas reservations related to the former state of Michigan lands (190 acres), the former

Michigan-Wisconsin Pipeline Company lands (2,003 acres), and the former Cleveland-Cliffs Iron Company lands (7,190 acres). There are no such reservations related to either the former Cliffs-Dow Chemical or the other remaining former privately owned lands.

The former Cleveland-Cliffs Iron Company lands were acquired by the federal government subject to a ‘Restrictive Easement Deed’ dated April 29, 1971, pertaining to any potential mineral extraction actions the company and/or its *‘successors and assigns’* might undertake in exercising their mineral reservation. As a result, the restrictive easement affects not only ownership of the mineral rights by the company, but any future owners of those rights. Conditions of the easement make it highly unlikely that the reserved mineral extraction rights would be exercised. This “Restrictive Easement Deed” is recorded with the Alger County (Michigan) Register of Deeds as: ‘RESTRICTIVE EASEMENT DEED’ in Liber 082 pages 52 to 87 with a recording date of May 3, 1971.

Although no such restrictive easement deed is in effect for either the former Michigan-Wisconsin Pipeline Company or the state of Michigan lands, it is also highly unlikely in light of the absence of known mineral deposits within the area of extraction interest that those reservations would be exercised.

Lands immediately adjacent to the boundary of the study area are in a mix of state of Michigan; ForestLand Group, Limited Liability Corporation, and federal (NPS) ownership. The state of Michigan and ForestLand Group, Limited Liability Corporation lands are in the inland buffer zone of the national lakeshore and are subject to provisions of the national lakeshore’s enabling legislation with respect to the harvesting of timber resources. The NPS lands immediately adjacent to the study area boundary are managed as backcountry with the exception of an eight site drive-in campground on Little Beaver Lake with its associated boat access to Little Beaver and Beaver Lakes and a backcountry trailhead parking area.

Timber harvesting activity is largely selective cut of stands of the predominant maple-beech forest on a long-term (sustained yield) cyclic basis. The cycle currently being practiced by ForestLand Group, Limited Liability Corporation, in particular is 15-20 years. Adjacent pockets of aspen and jack pine are harvested as clear cuts. Depending upon the species harvested, when timber harvesting is ongoing or recently completed, there can be a marked contrast in appearance between the vegetative cover of the study area and that of the adjacent lands.

MANAGEMENT PRESCRIPTIONS

A management prescription defines specific resource conditions and visitor experiences to be achieved and maintained in each particular area of the national lakeshore under each of the action alternatives (i.e., except the no-action alternative). Each prescription includes the types of activities and facilities that are appropriate in that management prescription. However, not all facilities that are appropriate in a management prescription will be constructed in each area to which the prescription is applied. Decisions to determine what facilities are appropriate will be based on an analysis of resource protection and visitor experience needs. The management prescriptions were presented to the public in *Newsletter 2* and were modified in response to public comments. The management prescriptions were developed as a result of this planning effort and therefore are not applied to the no-action alternative and map.

In formulating the alternatives, the management prescriptions were placed in different locations or configurations on the map according to the overall intent (concept) of each of the alternatives. That is, the manage-

ment alternatives represent different ways to apply the nine management prescriptions to the national lakeshore. For example, an alternative whose overall concept includes having as much wilderness as possible will have more of the primitive management prescription than an alternative whose overall concept is to increase access to the entire national lakeshore.

The alternative descriptions and maps also indicate the National Park Service's *desired* management prescriptions for land in the inland buffer zone that would be consistent with the philosophy of the alternative. In most cases, the *desired management* of these lands is the same as existing management and is consistent with township zoning regulations (see appendix E).

The nine management prescriptions for Pictured Rocks National Lakeshore are presented in table 2. Visitor experiences, resource conditions, and appropriate activities and facilities are described for each management prescription.

TABLE 2: PICTURED ROCKS NATIONAL LAKESHORE MANAGEMENT PRESCRIPTIONS

Management Prescription	Resource Condition or Character	Visitor Experience (what the visitor sees, feels, encounters)	Appropriate Activities or Facilities (what the visitor is doing, what facilities may be appropriate)
Orientation/ History	<p>Preservation or interpretation of cultural resources is emphasized in some areas. Buildings, facilities, and other signs of human activity are obvious, but natural elements are present.</p> <p>Highly managed; some areas are paved or hardened to protect resources or focus visitor use, and some areas near buildings are mowed.</p> <p>Settings may be managed to reflect a particular era.</p> <p>May be located where primary lakeshore features can be seen or experienced provided resource integrity is not compromised.</p>	<p>Visitors get an overview of lakeshore opportunities, activities, and resources. Outdoor skills and physical exertion are not needed; opportunities for challenge or adventure are rare.</p> <p>Time commitment is short for orientation, or moderate for in- depth interpretation.</p> <p>Interaction and encounters with lakeshore staff and other visitors are common, but overcrowding is rare.</p> <p>Structured visitor opportunities, such as interpretive programs and tours, are provided, but self- guided opportunities are also available.</p>	<p>Orientation and interpretation facilities such as visitor centers, contact stations, kiosks, wayside exhibits, and other interpretive media are appropriate.</p> <p>Access and support facilities such as parking areas, paved walkways, restrooms, picnic areas, and overlooks would be likely; facilities would be compatible with the setting.</p> <p>Facilities might include groupings of historic structures and related landscapes.</p> <p>Sightseeing, walks, educational programs, visiting cultural resources, and other organized activities would be common.</p> <p>Most facilities would be accessible to visitors with disabilities; historic structures might be modified to accommodate these visitors.</p>
Casual Recreation	<p>Some natural and cultural resources could be modified for essential visitor and lakeshore needs (e.g., paving trails or felling hazardous trees).</p> <p>There would be a high level of management provided to ensure natural and cultural resource protection and public safety and reduce visitor conflicts (e.g., fences, law enforcement, and restrictions on visitor activities).</p>	<p>Visitor attractions would be rustic, convenient, and easily accessible.</p> <p>Observing the natural environment is important, but there would be little need for visitors to exert themselves, apply outdoor skills, or spend a long time in the area.</p> <p>There would be a good chance of encountering other visitors and lakeshore staff.</p>	<p>Activities would include enjoying scenery, short walks, beach strolling, casual driving, motorized and nonmotorized boating, and camping. Bicycle use would not be permitted on trails in the shoreline zone.</p> <p>Facilities that support visitor touring would be present – overlooks, boat ramps, short trails, picnic areas, parking areas, restrooms, and rustic drive- in campgrounds).</p> <p>Visitor contact stations and interpretive media (waysides, bulletin boards, and interpretive tapes) might be present.</p> <p>Most facilities and some trails would provide access for people with disabilities.</p> <p>Hunting would be allowed except where specifically prohibited.</p> <p>Snowmobiling would be allowed on roads that are open to motorized vehicles during snow-free seasons.</p>

Management Prescription	Resource Condition or Character	Visitor Experience (what the visitor sees, feels, encounters)	Appropriate Activities or Facilities (what the visitor is doing, what facilities may be appropriate)
Primitive	<p>Natural processes and surroundings predominate.</p> <p>There would be a low level of management to support visitor activities and natural and cultural resource protection.</p> <p>A few resource modifications would be evident, but they would harmonize with the natural environment.</p> <p>Tolerance for natural and cultural resource degradation from visitor use would be very low.</p> <p>Any facilities would avoid sensitive resources.</p> <p>Could be applied in designated wilderness.</p>	<p>Provides a sense of remoteness and immersion in nature.</p> <p>Opportunities would exist for closeness to nature, tranquility, physical exertion, and the application of outdoor skills.</p> <p>Requires a fairly long time commitment.</p> <p>Opportunities would exist for challenge and adventure.</p> <p>Tolerance for noise, visual intrusions, and social interaction would be low.</p> <p>There would be little contact with other visitors and lakeshore staff, except in campgrounds.</p>	<p>Facilities would be limited to primitive footpaths and backcountry (tent) campgrounds with minimal facilities.</p> <p>Only nonmotorized activities would be allowed and would include hiking, camping, hunting, fishing, snowshoeing, kayaking, canoeing, and skiing. Bicycle use would not be permitted on trails in the shoreline zone.</p> <p>Structures would be restricted to those necessary to protect resources (e.g., trail planking in wet areas).</p>
Pristine	<p>Would be the most natural of the prescriptions.</p> <p>Tolerance for degradation of natural resources would be very low.</p> <p>Could include areas where low use is desired to protect certain resources or areas that are difficult to access or travel through.</p> <p>Nonsignificant cultural resources would be allowed to molder or decay over time.</p> <p>Could be applied in designated wilderness.</p>	<p>Provides for an independent, wild experience, with full immersion in the natural environment.</p> <p>Feels remote – far from comforts and conveniences.</p> <p>There would be little or no sign of human activity. Environment would offer opportunities for solitude, challenge, adventure, and discovery.</p> <p>Outdoor skills would be needed.</p> <p>Evidence of visitor impacts would be minimal.</p> <p>Tolerance for noise would be very low.</p> <p>Other visitors or lakeshore staff would rarely be encountered.</p>	<p>Has no facilities, including maintained trails or campgrounds.</p> <p>Kayaking, cross- country hiking, and exploring would be predominant visitor activities.</p> <p>Motorized activities and campfire building would not be permitted.</p> <p>Research would be limited to nonmanipulative activities.</p> <p>Management actions would be limited to those that mimic natural processes (e.g., prescribed fire) or restore natural systems and processes.</p> <p>Camping would not be permitted.</p> <p>Management presence would be minimal and subtle, but restrictions on length of stay and numbers of visitors would be possible to protect resources and maintain desired visitor experiences.</p> <p>Hunting and fishing would be allowed.</p>

Management Prescription	Resource Condition or Character	Visitor Experience (what the visitor sees, feels, encounters)	Appropriate Activities or Facilities (what the visitor is doing, what facilities may be appropriate)
Mixed Use	Travel routes would not necessarily be maintained. Natural resources might be highly managed or extracted (e.g., timber management, fish stocking, wildlife habitat management). Would be located primarily within the inland buffer zone.	Interpretation and education programs might be available in remote portions of the national lakeshore. Offers visitors a relatively primitive, independent experience. Visitors travel at their own risk; little or no interpretation would be provided. Access would be via primitive roads or trails. Observing and enjoying the natural environment would be important. Requires a moderate time commitment. Some outdoor skills might be needed; could provide a sense of adventure. Few visitors or lakeshore staff would be encountered.	Facilities would include primitive roads and trails, primitive camps, and private cabins. Motorized and nonmotorized transportation would be acceptable and could include all-terrain vehicles, bicycles, snowshoes, horses, dog sleds, motorcycles, and snowmobiles. Bicycle and motorized use on the North Country National Scenic Trail would be prohibited. Hunting, fishing, hiking, camping, and cross-country skiing would be common.
Developed	Natural environment would be modified for operational and other uses. Would be rural in character. Structures and other facilities would be apparent. Would not be located near sensitive natural or cultural areas if resources could not be protected.	Not intended for visitor use.	Facilities necessary for lakeshore operations, administration, or surrounding land uses might be present, including residential areas, lakeshore maintenance yards, access roads, parking, and utility corridors.
Paved Road	Designed to accommodate all vehicle types. Slightly wider and less winding than primitive roads. Has paved surface. <ul style="list-style-type: none"> Higher design standard would require more resource modification than for primitive roads. Forest canopy might be open to accommodate road width. 	Used for reaching destinations and for scenic touring. Might include primary access routes to lakeshore features. Vehicles would travel at moderate speeds. There would be a good chance of encountering other vehicles. Would be available to all visitors, regardless of vehicle type.	Paved roads, with associated pullouts, trailheads, parking areas, and wayside exhibits. Driving, bicycling, horses, and snowmobiles would be appropriate.

Management Prescription	Resource Condition or Character	Visitor Experience (what the visitor sees, feels, encounters)	Appropriate Activities or Facilities (what the visitor is doing, what facilities may be appropriate)
Improved Gravel Road	<p>Designed to accommodate all vehicle types. Slightly wider and less winding than primitive roads.</p> <p>Gravel base with regular grading.</p> <p>Higher design standard would require more resource modification than for primitive roads.</p> <p>Dusty conditions might exist at times.</p> <p>Forest canopy might be open to accommodate road width.</p>	<p>Used for reaching destinations and for scenic touring.</p> <p>Vehicles would travel at fairly slow speeds.</p> <p>Moderate chance of encountering other vehicles.</p> <p>Available to all visitors, regardless of vehicle type.</p>	<p>Improved gravel roads with associated pullouts, trailheads, parking areas, and wayside exhibits.</p> <p>Cars, bicycles, horses, and snowmobiles would be appropriate.</p>
Primitive Road	<p>Narrow, unimproved, slow- speed roads. Graded as needed to keep surface passable.</p> <p>High clearance vehicles might be needed on some stretches.</p> <p>Would be dirt or sand based, so dusty conditions might exist.</p> <p>Has narrow, closed canopy in forested areas.</p> <p>Resource modifications at edges of road corridor would be minimized.</p>	<p>Provides a sense of immersion in nature, often leading to a remote destination.</p> <p>Opportunities for challenge and adventure would be available.</p> <p>Provides a very slow, discovery experience.</p> <p>Accessible to heavy duty or high clearance vehicles</p>	<p>Narrow unimproved roads and associated viewpoints, with small trailheads and picnic areas.</p> <p>Cars, bicycles, all- terrain vehicles, walking, horses, and snowmobiles would be appropriate.</p> <p>There would be little or no interpretation provided.</p>

Management Prescription Notes:

1. In general, motorized NPS administrative use and access would be consistent with visitor restrictions on motorized use. (NPS staff would generally abide by the same rules as visitors.)
2. Treatment of cultural resources would be based on the *Secretary of the Interior's Standards for the Treatment of Historic Properties*.
3. Sanctioned uses of national lakeshore resources by affiliated tribes would be managed through visitor use management and permits.

NO- ACTION ALTERNATIVE

CONCEPT AND GENERAL MANAGEMENT STRATEGIES

This alternative describes a continuation of existing management at Pictured Rocks National Lakeshore. It provides a baseline for evaluating the changes and impacts of the other alternatives. The National Park Service would continue to manage Pictured Rocks as it has in the past. Managers would continue to follow the special mandates and servicewide mandates and policies described earlier in the "Guidance for the Planning Effort" section of this document, as staffing and budget allow.

Existing operations and visitor facilities would remain in place, concentrated at the west and east ends of the lakeshore, while the central portion would continue to be preserved in a primitive, relatively undisturbed state (see No- Action Alternative map). No new construction would be authorized. A diversity of visitor use facilities from backcountry to drive- in campsites; primitive trails to boardwalks; unpaved to paved roads; and self- directed interpretation to ranger- led programs would continue to be provided.

The national lakeshore would continue to be managed for the perpetuation and protection of the natural environment and the preservation of cultural features while making them available for appropriate public use. Natural ecological processes would continue to be allowed to occur, and restoration programs would continue or would be initiated where necessary. Some significant cultural resources would be preserved, upgraded, and/or adaptively used, and nonsignificant cultural resources would be adaptively used or left alone. Locally promulgated zoning would continue as the basic management tool in the inland buffer zone.

Managers would place few additional limits on visitor use (unless unacceptable resource

or visitor use impacts were occurring). Thus visitation could likely increase throughout most of the national lakeshore. National lakeshore staff would continue to enforce current backcountry use management policies that permit camping only in designated sites. Permits would continue to be required for overnight backcountry use. Managers would also continue to regulate use by motorized boats, snowmobiles, and off- road- vehicles. On Lake Superior waters within the national lakeshore (within 0.25 mile from shore), motorized and nonmotorized boating would continue.

The National Park Service would continue its active role in monitoring and/or influencing commercial and private activities that affect resources in the lakeshore. Concession structures would not be added to the lakeshore. Local communities would be encouraged to provide visitor services, and County Road H-58 (owned and maintained by Alger County) would likely remain a mix of paved and unpaved road. Commercial boat tours of the Pictured Rocks would continue.

The inland buffer zone would continue to be managed to preserve the natural setting, protect watersheds and streams, allow reasonable use by private landowners, and permit sustained- yield harvesting of timber.



The National Park Service would continue to preserve the North Country National Scenic Trail's character and use as a premier hiking and backpacking trail.

WESTERN PORTION OF THE NATIONAL LAKESHORE





In the western (Munising) end of the national lakeshore, visitor use would continue to be concentrated at Munising Falls, Sand Point,

LEGEND





Facilities

-  Campground
-  Picnic Site
-  Trail

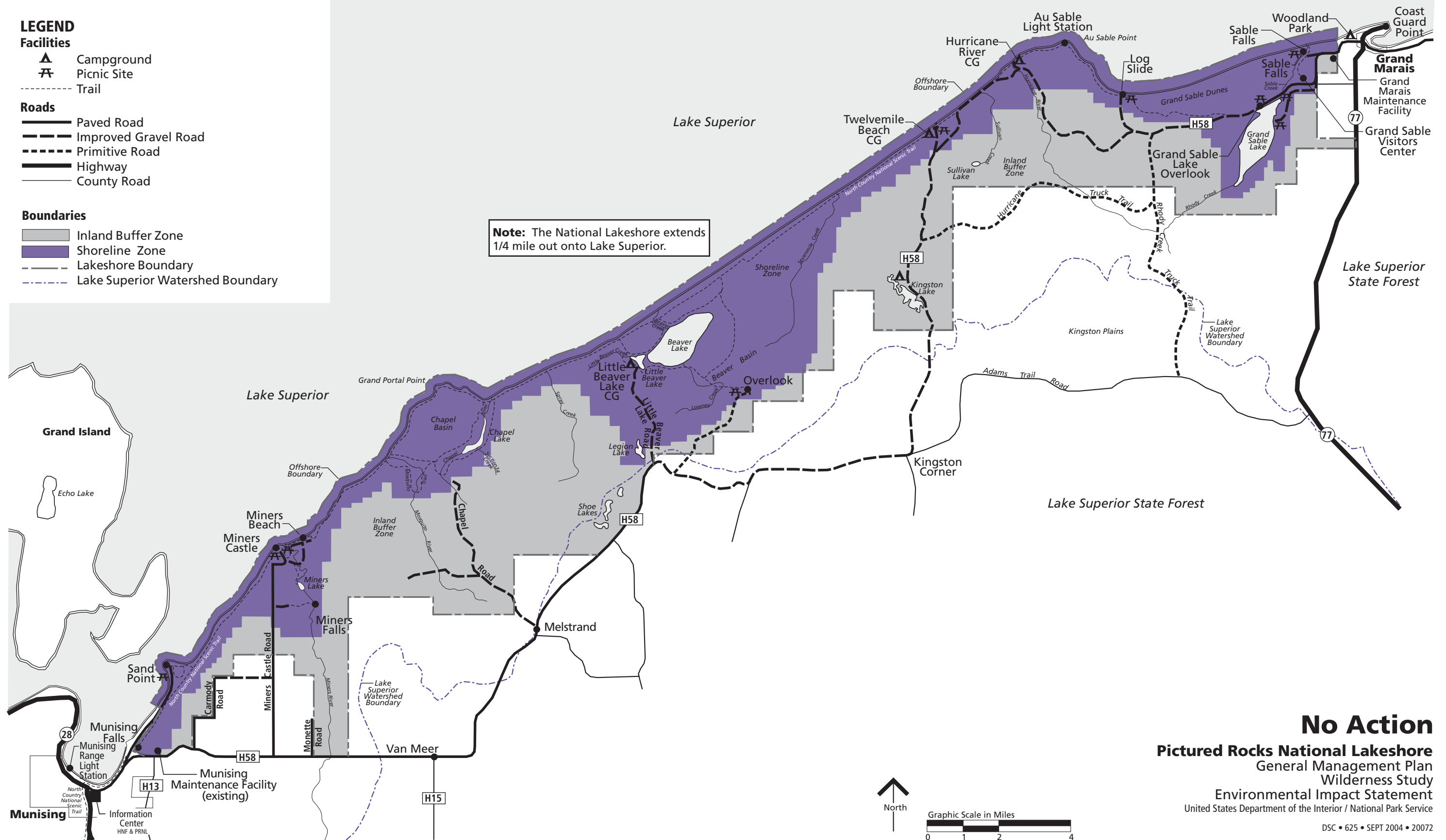
Roads

-  Paved Road
-  Improved Gravel Road
-  Primitive Road
-  Highway
-  County Road

Boundaries

-  Inland Buffer Zone
-  Shoreline Zone
-  Lakeshore Boundary
-  Lake Superior Watershed Boundary

Note: The National Lakeshore extends 1/4 mile out onto Lake Superior.



No Action
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the Miners area, and along the North Country National Scenic Trail. The only overnight use in the west end would occur at backcountry campsites.

Visitor orientation, information, and back-country permits would continue to be available in Munising (at the NPS/USFS visitor information center), Munising Falls, and Miners Castle. The area's cultural history would continue to be interpreted at the former Sand Point Coast Guard Station, and preservation treatment would continue there, as would use of some structures as seasonal residences, administrative offices, and/or museum storage. Adaptive use of the boat-house would continue. Private tour boats would continue tours of the Pictured Rocks from Munising to Chapel Beach. The Schoolcraft Furnace and kilns would continue to be protected and interpreted.

Administrative headquarters would remain in the old Coast Guard Station at Sand Point and at the Munising Range Light Station. Lake-shore maintenance activities would continue to be based at the maintenance facility just off H- 58 near Munising.

County Road H- 58 would remain a paved road in the west end of the national lakeshore.

CENTRAL PORTION OF THE NATIONAL LAKESHORE

In the shoreline zone the central portion of the lakeshore (especially Chapel and Beaver Basins) would continue to be preserved and managed in a relatively primitive, undisturbed state. Visitor use would be more dispersed than in the east and west ends, although some concentration of visitors would occur at popular natural features and campgrounds. Day uses (e.g., hiking and fishing) and overnight uses (e.g., camping and backpacking) would be common in the backcountry. Car camping opportunities would continue to be available at Little Beaver Lake and Twelvemile

Beach campgrounds. On the Beaver Lakes boat motors would continue to be limited to 10 horsepower or less.

There would be few visitor orientation, information, or interpretation services in the central portion of the national lakeshore. County Road H- 58 would remain a paved road west of Little Beaver Lake road and would likely remain an unpaved road (some sections gravel, some rough sand) east of Little Beaver Lake road to the Grand Sable Lake overlook.

The inland buffer zone would continue to be managed to preserve the natural setting, protect watersheds and streams, allow reasonable use by private landowners, and permit sustained- yield harvesting of timber.

EASTERN PORTION OF THE NATIONAL LAKESHORE

In the eastern (Grand Marais) end of the national lakeshore, visitor use would be concentrated around Hurricane River, Twelve-mile Beach, Au Sable Light Station, Log Slide, Grand Sable Lake and falls, and along the North Country National Scenic Trail. Car camping would continue at Hurricane River campground. Boating on Grand Sable Lake (including motorboats with motors 50 horsepower or less) would continue.

Efforts to rehabilitate main building exteriors and renovate main building interiors at the Au Sable Light Station would continue, as would preservation treatment and the guided tours.

Grand Sable Dunes would continue to be managed as a research natural area.

Visitor orientation and information would continue to be available at the Grand Sable visitor center and the Grand Marais Maritime Museum/ranger station. Interpretation of the area's cultural history would continue at the Au Sable Light Station and the Grand Marais Maritime Museum. Some of the items in the

national lakeshore's collection are exhibited in the Grand Marais Maritime Museum. The Abrahamson barn would continue to be preserved and used for storage. The environmental conditions for the museum collection in the museum and at the Abrahamson barn are substandard.

The use of some structures associated with the Grand Marais Coast Guard Station and Grand Marais Harbor of Refuge quarters that have been stabilized would continue being used as seasonal residences, administrative offices, or museum/storage space. Preservation treatment would continue at both sites. Management of adjacent land (parking lot, etc.) at the Grand Marais Coast Guard Station would be transferred from the Coast Guard and Army Corps of Engineers to the National Park Service.

Administration in the east end would continue to be divided between the Grand Marais ranger station and the Grand Sable visitor center. The east end maintenance staff and facilities would continue to be divided between the visitor center and the substandard facility at Grand Marais.

The Grand Marais Harbor of Refuge keepers quarters would continue to be leased to the Grand Marais Historical Society. County Road H- 58 would likely remain unpaved (some sections gravel, some rough sand) west of the Grand Sable Lake overlook and paved east of the overlook.

The inland buffer zone would continue to be managed to preserve the natural setting, protect watersheds and streams, allow reasonable use by private landowners, and

permit sustained- yield harvesting of timber as defined in the national lakeshore's establishing legislation.

WILDERNESS

There would be no wilderness proposed for designation at Pictured Rocks National Lakeshore.

COSTS

Costs are given for comparison to other alternatives only and are not to be used for budgeting purposes. Although the numbers appear to be absolutes, they represent a mid-point in a possible range of costs. The costs developed are total life- cycle costs, which are inclusive of all initial costs (new development including transportation infrastructure costs, rehabilitation, interpretive media, etc.), replacement costs, and recurring annual costs such as national lakeshore operations.

All of these costs are projected out for 25 years, and are shown as the worth in today's dollars. For a more detailed explanation of life- cycle costs, please refer to the "Development of GMP Cost Estimates" section earlier in this chapter. The initial capital cost for the no- action alternative is assumed to be zero because no new capital expenditures would be proposed. The recurring or replacement costs would be \$20,170,000. The recurring annual costs would be \$943,000. The total life- cycle cost for this alternative would be \$21,113,000.

PREFERRED ALTERNATIVE

HOW THIS ALTERNATIVE WAS DEVELOPED

Public comment on the draft alternatives showed strong support for both alternatives C and D as presented in *Newsletter 3* and through a series of public meetings. Many people favored wilderness designation within the national lakeshore while many others were concerned about ease of access to lakeshore features and the effect wilderness designation would have on that access. An analysis of the alternatives showed that many public concerns could be met with a blending of these two concepts along with some elements described in alternative B and still be within the purposes of the national lakeshore. Starting with the original alternative D, the team added some of the watershed protection measures from alternative B and then incorporated alternative C actions that would improve public access to significant national lakeshore features (see Preferred Alternative map).

CONCEPT AND GENERAL MANAGEMENT STRATEGIES

The preferred alternative would expand opportunities for visitor use in the national lakeshore while preserving the central portion of the national lakeshore in a primitive, relatively undisturbed state. The national lakeshore would be managed for the perpetuation and protection of the natural environment and the preservation of cultural features while making them available for appropriate public use. The preferred alternative also calls for additional and more convenient access to significant national lakeshore features on the west and east portions of the national lakeshore. The diversity of visitor experience opportunities would also be maintained in a way that would not further degrade resources. The operational effectiveness of the national lakeshore would be improved. Several significant cultural resources would be

preserved, upgraded, and/or adaptively used, and nonsignificant cultural resources would be adaptively used or left alone.

Commercial boat tours of the Pictured Rocks would continue with recommendations made to tour boat operators to reduce the noise coming from the tour boat public address system so that intrusion on the natural quiet would be minimized.

Grand Sable Dunes would continue to be managed as a research natural area (see glossary and Preferred Alternative map).

Locally promulgated zoning would continue as the basic management tool in the inland buffer zone. Ranger staff would monitor land use practices in the inland buffer zone and assist the townships and the city in education and enforcement of their zoning ordinances. The National Park Service would work closely with the local zoning administrators to ensure that zoning ordinances are followed and that administration of those ordinances fulfills the intent of the inland buffer zone and carries out the mandates of the enabling legislation. Cooperative management of the Lake Superior watershed with other entities (such as the U.S. Forest Service; Michigan Department of Natural Resources; ForestLand Group, Limited Liability Corporation; and other private landowners) would be emphasized. Operational facilities would be consolidated at the ends of the national lakeshore for efficiency.

Except for the Little Beaver Lake campground and access road and the access road to the Beaver Basin overlook, federal lands in the Beaver Basin area in the national lakeshore would be proposed for designation as wilderness. Vehicular access to Little Beaver Lake campground and the Beaver Basin overlook would continue; however, one structure in the proposed wilderness would be removed. Other roads in Beaver Basin would be closed

and converted to trails or allowed to revert to natural vegetation.

To accommodate possible increased use and to increase ease of access in the portion of the national lakeshore not proposed for wilderness, certain roads would be upgraded (upgrading portions of County Road H- 58 would be recommended), and a rustic campground (comparable in character to Hurricane River and Twelvemile River campgrounds) would be added in the Miners Castle area. All improvements would depend on meeting national environmental and cultural compliance and resource protection laws.

Visitor use limits generally would not be imposed in the orientation/history, casual recreation, or mixed use prescriptions, unless dictated by facility design capacities, to protect resources, or to ensure levels of visitor experience. Existing backcountry use management policies would be continued, and additional visitor use limits could eventually be imposed to achieve desired resource or social conditions in the primitive and pristine prescription areas.

Managers would continue to follow the special mandates and servicewide mandates and policies described earlier in the "Guidance for the Planning Effort" section of this document.

The National Park Service would continue to preserve the North Country National Scenic Trail's character and use as a premier hiking and backpacking trail.

MANAGEMENT PRESCRIPTIONS AND RELATED ACTIONS

The greatest proportion of the national lakeshore (about 51%) would be managed under the mixed- use prescription. The primitive prescription would cover about 28% and the casual recreation prescription would cover about 11%. The developed management prescription would cover about

6%, and about 3% of the national lakeshore (the Grand Sable Dunes area) would be managed as pristine. The orientation/history prescription would cover about 1%. (See table 3 at the end of the description of the alternatives for a comparison of the balance of management prescriptions.)

There would be about 10 miles of the paved road prescription, 20 miles of the improved gravel road prescription, and no primitive road prescription in the preferred alternative. These figures do not include H- 58 because the county has responsibility for this road.

This section describes how different areas of the national lakeshore would be managed and what actions the National Park Service would take under the preferred alternative. These actions are those believed most likely to take place over the next 15 years in the national lakeshore given the preferred alternative's concept, management prescriptions, the conditions that already exist in the lakeshore, and the lakeshore's environmental constraints. Under this alternative, where possible, any new facilities would be constructed in already disturbed areas. Disturbance to sensitive areas such as threatened and endangered species habitat and archeological sites would also be avoided or mitigated whenever possible. (See "Mitigation Measures" section.)

Orientation/History Prescription

The NPS/USFS information center at Munising would be managed according to the orientation/history prescription. This would require no change in management.

Munising Falls, Sand Point, and the Schoolcraft Furnace and kilns would also be managed as orientation/history. The furnace and kilns would continue to be protected.

LEGEND

Facilities

- Existing Campground
- Proposed Campground
- Picnic Site
- Trail
- Highway
- County Road

Boundaries

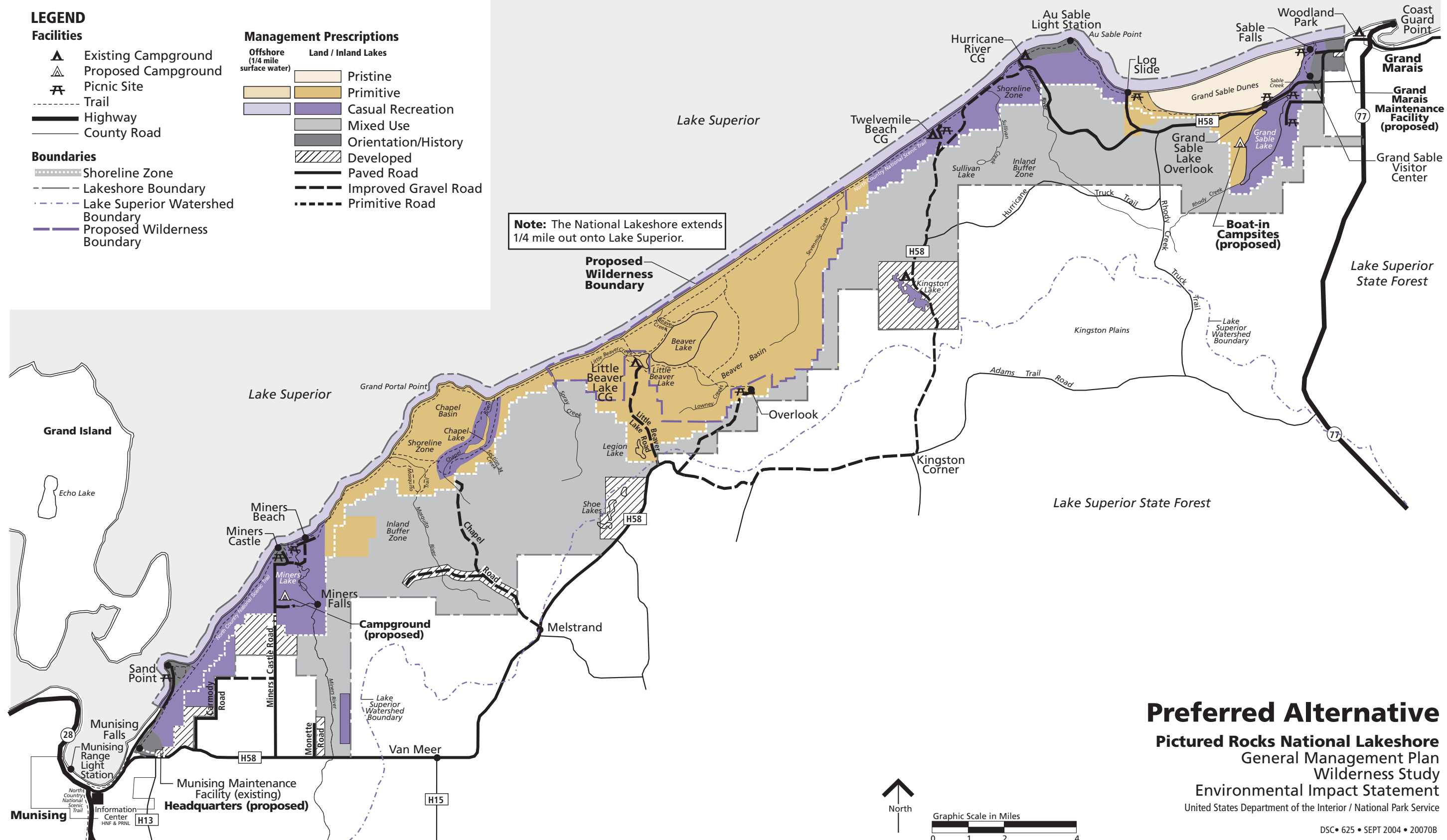
- Shoreline Zone
- Lakeshore Boundary
- Lake Superior Watershed Boundary
- Proposed Wilderness Boundary

Management Prescriptions

- | Offshore
(1/4 mile
surface water) | Land / Inland Lakes |
|---|----------------------|
| | Pristine |
| | Primitive |
| | Casual Recreation |
| | Mixed Use |
| | Orientation/History |
| | Developed |
| | Paved Road |
| | Improved Gravel Road |
| | Primitive Road |

Note: The National Lakeshore extends 1/4 mile out onto Lake Superior.

Proposed Wilderness Boundary



Preferred Alternative

Pictured Rocks National Lakeshore

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If the lakeshore headquarters function was relocated away from Sand Point and Munising Range Light Station to the proposed Munising headquarters facility adjacent to the Munising maintenance facility, a portion of Sand Point would be managed to provide visitors with opportunities to learn about Coast Guard history. (The Munising Range Light Station would be in the developed prescription while being used for administrative purposes.) The Sand Point Coast Guard Station and boathouse would be rehabilitated/preserved to protect the architectural values associated with their period of significance (1933-46, with an emphasis on the 1940s era). The cultural landscape would be rehabilitated and preserved in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*) to reflect the ambiance and most significant elements of this period. The site would also be actively interpreted. The first floor of the Coast Guard Station would be restored to the 1940s Coast Guard era, and the boathouse would be interpreted.

At such time as the Munising Range Light Station is no longer needed for administrative purposes, the site would be interpreted as a component of the national lakeshore's preservation and interpretation of the Lake Superior maritime history and the U.S. Coast Guard involvement in the region. It is the national lakeshore's intention to manage and maintain this property as a historic site. The station would be rehabilitated, preserved, and adaptively used for temporary staff offices until such time as the new administration facility is completed on County Road H-58. (The U.S. Coast Guard would continue to maintain the operating aids to navigation [the front and rear range lights] that comprise two of the five structures on the property.) The cultural landscape would be rehabilitated and preserved to reflect the ambiance and

significant elements of the period of significance in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*). Interpretation of the site would be via onsite wayside exhibits.

The Miners Castle area, which provides easy access to a popular geologic feature and to the Lake Superior shoreline, would be managed as orientation/history in this alternative. Opportunities for visitors to become oriented to the national lakeshore and learn about lakeshore resources would be available.

The Au Sable Light Station area would be managed as orientation/history. Visitors would be able to get to the light station by a trail, and light station tour and day hiking opportunities would be available. The exteriors of the small ancillary structures would be rehabilitated, and the interiors would be renovated for historic interpretation and adaptive use. Preservation treatment that meets the *Secretary of the Interior's Standards for the Treatment of Historic Properties* would also be done on the smaller structures to protect the station's architectural and interpretive values. The cultural landscape would be restored and preserved to reflect the early 1900s time period based on the 1999 "Cultural Landscape Report" (Quinn Evans/ Architects and Land and Community Associates). Restrooms and utilities would also be added without detracting from the historic scene.

In the Grand Marais area, the Abrahamson barn (adjacent to the Grand Sable visitor center) would be rehabilitated. The Abrahamson Farm cultural landscape would be rehabilitated and preserved to a facsimile of its period of significance in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with*

Guidelines for the Treatment of Cultural Landscapes). For example, some farm fields might be cleared and managed as open fields, some orchards might be managed, and certain fields might be leased for growing hay.

The Grand Marais Coast Guard Station, which would also be managed as orientation/history, would be preserved, rehabilitated, and adaptively used. The cultural landscape would be rehabilitated and preserved to a facsimile of its 1940s period of significance, in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*). If land acquisition is possible, management of adjacent land (parking lot, etc.) would be transferred from the Coast Guard and Army Corps of Engineers to the National Park Service. (This area developed for day use would exclude critical habitat for the piping plover.) All management actions would be consistent with re-creation of the 1940s historic scene. Because the administrative offices and maintenance function would move to the new east-end administration/maintenance facility, there would likely be increased space for the Maritime Museum.

The Grand Marais Harbor of Refuge quarters would be preserved, rehabilitated, and adaptively used. The cultural landscape would be rehabilitated and preserved to a facsimile of its period of significance in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*).

The Grand Sable visitor center and the Grand Marais Maritime Museum would be managed as orientation/history to provide opportunities for comprehensive interpretation of agricultural and maritime history. The desired

conditions would be that visitors are well oriented as they enter the lakeshore from the east and are able to obtain any permits they need.

Casual Recreation Prescription

An area between Munising Falls and Miners Beach would be managed as casual recreation. The Miners area (except Miners Castle) would be managed for casual recreation to allow construction of a new drive-in campground (25-35 sites), similar in character and size to the Twelvemile Beach and Hurricane River campgrounds and trails. An exception to this would be that Miners Lake would be nonmotorized.

At the Becker farm, the open-field characteristics of the historic farmstead (cultural landscape) would be rehabilitated and preserved.

A corridor including the trails to Chapel Falls and Chapel Beach would be managed as casual recreation. The juxtaposition of beach, inland lake, cliffs, waterfalls, and views would provide a key visitor experience for national lakeshore visitors. The casual recreation prescription would allow for more formal/hardened trails to be provided to protect resources. Portions of the trail could be accessible to people with disabilities. (Note: Chapel Lake would not be included in this prescription. It would be managed as primitive.)

The National Park Service would encourage management of Kingston Lake and the adjacent state forest campground in a manner consistent with the casual recreation prescription and to maintain the existing visitor opportunities at this popular state-managed recreation area.

The Twelvemile Beach and Hurricane River campground areas would also be managed as casual recreation. This would mean no change at the Twelvemile Beach campground. A

detailed site plan for redesign of the Hurricane River campground/Au Sable Light Station area would be developed. Desired conditions for the redesigned area include better protection of the wetland areas adjacent to the lower campground loop, improved vehicular circulation, and better separation of campground activities from day uses. The site plan should consider removing the lower campground loop and converting a portion of this area to day use parking to serve Au Sable Light Station visitors. The park staff would attempt to find a suitable location for a replacement loop if the current lower loop were removed.

An exception to this zone would be the retention and administrative use of Sullivan's cabin located between Hurricane River and Twelvemile campgrounds.

The Log Slide area would be managed as casual recreation (no changes in management would be anticipated).

Access to east- end facilities and attractions would be improved, and recreational opportunities would be expanded. Boat- in campsites at Grand Sable Lake would be added. Motorized boating at Grand Sable Lake would continue with limits on horsepower (50 horsepower or less).

From the west to the east lakeshore boundary, the 0.25 mile- wide strip of Lake Superior within the lakeshore would be in the casual recreation management prescription. Motorized and nonmotorized boating access to Lake Superior could continue. Tour boats would continue to provide tours of the Pictured Rocks with the recommendation that noise from the public address system be reduced so that intrusion on the natural quiet would be minimized. The visitor experience in the Beaver Basin would be to support wilderness values. Motorized boating activity would be allowed on Lake Superior adjacent to the proposed wilderness. Should current motorboat noise levels increase along the stretch of Lake Superior adjacent to Beaver

Basin, the issue would be studied and alternatives would be explored.

Currently, regulations are in the federal rule-making process regarding use of personal watercraft. The proposed regulations allow personal watercraft to launch from a designated launch site (currently Sand Point) and operate on Lake Superior within the national lakeshore boundary from the western lakeshore boundary up to the east end of Miners Beach. Personal watercraft users would be allowed to beach their craft on Miners Beach. Personal watercraft would not be allowed to launch or operate elsewhere within the national lakeshore.

Mixed Use Prescription

The mixed use management prescription would be applied to the inland buffer zone in both the eastern and western portions of the national lakeshore but not the central (Beaver Basin) portion of the national lakeshore (see Preferred Alternative map). Mixed- use areas would be managed to continue opportunities for extractive and recreational activities as authorized in the legislation that established the national lakeshore. The National Park Service would continue cooperative management and zoning in these areas. Management of these areas would not be significantly different than current management.

Consistent with the enabling legislation, national lakeshore managers are interested in using part of the inland buffer zone as a demonstration forest. The national lakeshore is the only national park system unit that has a legislated buffer zone, which provides the National Park Service with a unique opportunity to partner with outside industry in order to explain the importance of sustainable timber practices, the logging industry in the Upper Peninsula, and its connection to the national lakeshore.

Pristine Prescription

Grand Sable Dunes would be managed under the pristine prescription, which reinforces its status as a research natural area. Natural conditions and special resources associated with the dune system would be maintained. This would not constitute a change in management.

Primitive Prescription

An area between Miners Beach and Spray Creek (including most of Chapel Basin) and Chapel Lake would be managed as primitive (essentially no change in management).

Beaver Basin, including Beaver Lakes, would be managed as primitive to provide opportunities for relatively remote, wild experiences and to maintain natural conditions in this wild area. Primitive trails and backcountry campgrounds would be allowed. Except for the Little Beaver Lake road and the road to Beaver Basin, all roads (two-tracks) would be closed and allowed to revert to natural conditions.

There would be two exceptions to the primitive zone. The Little Beaver Lake campground (eight campsites, vault toilet, boat launch ramp, and small parking lot) would continue to be managed as a small rustic drive-in campground. Only electric motors would be allowed on Little Beaver and Beaver Lakes — gasoline motors would be prohibited.

An area roughly between Log Slide eastward to Grand Sable Lake would be managed as primitive (essentially no change in management). At Grand Sable Lake new boat-in campsites would be added.

Developed Prescription

The existing lakeshore maintenance facility off H-58, near Munising, would be managed

under the developed prescription. Pending funding, the lakeshore headquarters function would be relocated from Sand Point and the Munising Range Light Station to this area. (The building currently used for headquarters is too small to accommodate current staff and is substandard with respect to utilities and accessibility.) A new administration building (approximately 20,000 square feet including garage and storage) would include curatorial space that would be consistent with NPS standards and would be built on land that was prepared for this building during the construction of the Munising maintenance facility.

Landowners of areas along Carmody Road, Monette Road, and Chapel Road would be encouraged to continue to manage these areas consistent with the intent of the developed prescription, thus allowing private residential use and residential development to continue.

Likewise, landowners of areas in the inland buffer zone near Miners Castle Road, around Shoe Lakes, and around Kingston Lake would be encouraged to manage these areas consistent with the intent of the developed prescription to allow for future private residential use and development. (This is consistent with current county and/or township zoning.)

The east-end administrative and maintenance functions would be consolidated in a new facility (about 6,700 square feet) in a developed area near Grand Marais. The existing maintenance facility would be removed.

Road Prescriptions

From the NPS perspective, an improved gravel road surface within the lakeshore boundary would generally be acceptable for County Road H-58. An improved gravel road would improve access to national lakeshore features while preserving opportunities for diverse vehicular traveling experiences in the national lakeshore. Any improvements to

H-58 should maintain a low-speed road that preserves the forest canopy, rustic character, scenic qualities, and archeological resources wherever possible. Paving H-58 would also be acceptable to the National Park Service.

Alger County plans to pave H-58 between the Log Slide access road and Hurricane River are being implemented.

Grand Sable Lake road, Log Slide road, Miners Castle road, the proposed Miners campground road, a portion of Miners Beach road, and Sand Point road would also be managed under the paved road prescription to provide easy access to primary national lakeshore features or to private residential areas. This would require paving Grand Sable Lake road and Log Slide road (the others are already paved).

Roads managed under the improved gravel road prescription would include a portion of Miners Beach road, Chapel road, and Twelvemile Beach and Hurricane River campgrounds and access roads. The intent would be to provide safe and relatively easy access to primary national lakeshore features in these areas. A portion of Chapel road would require improvement to conform to the improved gravel road prescription.

The Beaver Basin overlook road would be kept to maintain access to timber and to trailhead parking at the overlook. This road would be improved and managed under the improved gravel road prescription.

WILDERNESS

The National Park Service would propose 11,739 acres (about 16% of the national lakeshore) for wilderness designation under the preferred alternative (see wilderness boundary, Preferred Alternative map). The area proposed for wilderness includes Beaver

Basin (except for the Little Beaver Lake, campground, and road corridor). All of the area proposed for wilderness is within the shoreline zone designated by Congress (PL 89-668).

Areas proposed for wilderness designation would be managed under the primitive prescription. The primitive management prescription is consistent with desired wilderness conditions.

COSTS

Costs are given for comparison to other alternatives only and are not to be used for budgeting purposes. Although the numbers appear to be absolutes, they represent a mid-point in a possible range of costs. The costs developed are total life-cycle costs, which are inclusive of all initial costs (new development including transportation infrastructure costs, rehabilitation, interpretive media, etc.), replacement costs, and recurring annual costs such as national lakeshore operations.

All of these costs are projected out for 25 years, and shown as the worth in today's dollars. For a more detail explanation of life cycle costs, please refer to the "Development of GMP Cost Estimates" section earlier in this chapter. The initial capital cost for the preferred alternative is \$23,078,000. The recurring or replacement costs would be \$1,154,000. The recurring annual costs would be \$25,529,000. The total life-cycle cost for this alternative would be \$49,761,000.

Improving 16.6 miles of H-58 to a gravel surface would cost an additional \$8.5 million. These costs are the responsibility of Alger County and would not be incurred by the National Park Service.

ALTERNATIVE A

CONCEPT AND GENERAL MANAGEMENT STRATEGIES

In alternative A management of the national lakeshore would be very similar to the no-action alternative. The concept for alternative A was developed in response to public comment that people were essentially pleased with the national lakeshore as it is, but they had a few suggestions for improvement. The differences between the no-action alternative and alternative A reflect the most often heard suggestions and ideas from the previous management plan that are still considered viable but have not been implemented.

Administration and maintenance functions would be consolidated in new facilities near Munising and Grand Marais. Visitor facilities would remain in place, and a new campground would be provided. Facilities would continue to be concentrated at the ends, while the central portion of the national lakeshore would be preserved in a relatively primitive, undisturbed state. A diversity of visitor use facilities and experience opportunities throughout the national lakeshore would be provided. (see Alternative A map). Otherwise, the National Park Service would continue to manage Pictured Rocks as it has in the past. National lakeshore managers would continue to follow the special mandates and service-wide mandates and policies described earlier in the "Guidance for the Planning Effort" section of this document.

The national lakeshore would be managed for the perpetuation and protection of the natural environment and the preservation of cultural features while making them available for appropriate public use. No wilderness would be proposed. Natural ecological processes would be allowed to occur, and restoration programs would be initiated where necessary. Several significant cultural resources would be preserved, upgraded, and/or adaptively used,

and other cultural resources would be adaptively used or left alone. The National Park Service would continue to preserve the North Country National Scenic Trail's character and use as a premier hiking and backpacking trail.

National lakeshore managers would place few limits on visitor use, thus visitation could increase throughout most of the national lakeshore. National lakeshore staff would continue to enforce current backcountry use management policies of permitting camping only in designated sites. Permits would be required for overnight backcountry use. National lakeshore managers would also continue to regulate use by motorized boats, snowmobiles, and off-road vehicles. Motorboat use on inland lakes would continue.

The National Park Service would continue its active role in monitoring and/or influencing commercial and private activities that affect resources in the lakeshore. Concession structures would not be added to the lakeshore. Local communities would be encouraged to provide visitor services.

Commercial boat tours of the Pictured Rocks would continue with recommendations made to tour boat operators to reduce the noise coming from the tour boat public address system so that intrusion on the natural quiet would be minimized.

Locally promulgated zoning would continue as the basic management tool in the inland buffer zone.

Paving H- 58 would from Munising to Grand Marais would be the recommended county action under this alternative.

LEGEND

Facilities

- Existing Campground
- Proposed Campground
- Picnic Site
- Trail
- Highway
- County Road

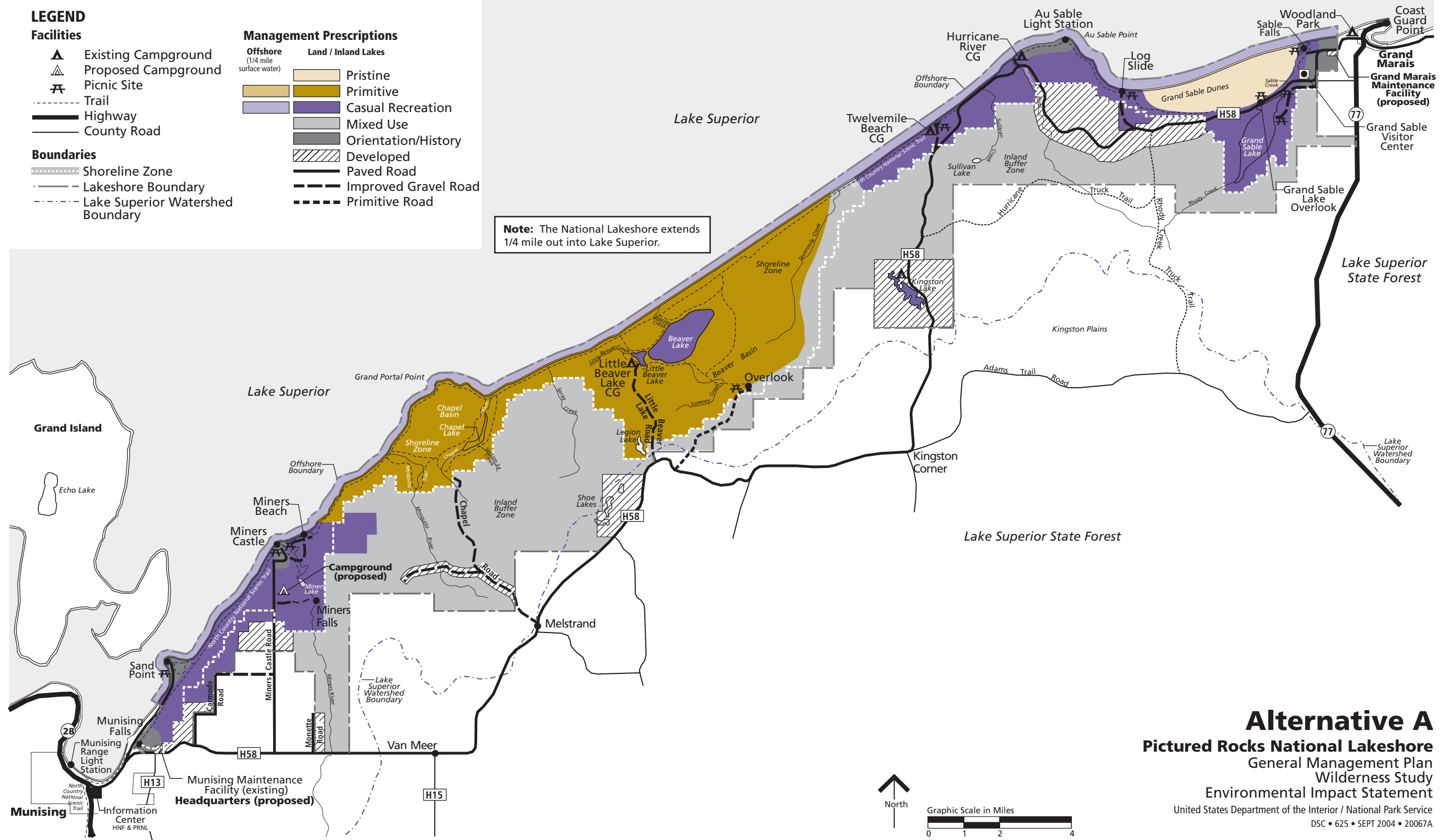
Boundaries

- Shoreline Zone
- Lakeshore Boundary
- Lake Superior Watershed Boundary

Management Prescriptions

- | Offshore
(1/4 mile
surface water) | Land / Inland Lakes |
|---|----------------------|
| | Pristine |
| | Primitive |
| | Casual Recreation |
| | Mixed Use |
| | Orientation/History |
| | Developed |
| | Paved Road |
| | Improved Gravel Road |
| | Primitive Road |

Note: The National Lakeshore extends 1/4 mile out into Lake Superior.



Alternative A
Pictured Rocks National Lakeshore
 General Management Plan
 Wilderness Study
 Environmental Impact Statement
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MANAGEMENT PRESCRIPTIONS AND RELATED ACTIONS

The greatest portion of the national lakeshore (48%) would be managed under the mixed-use prescription. The casual recreation prescription would cover about 20%, and the primitive prescription would cover about 18%. The developed management prescription would cover 10%, and about 3% (Grand Sable Dunes area) would be managed as pristine. The orientation/history prescription would cover 1%, and (See table 3 at the end of the description of the alternatives for a comparison of the balance of management prescriptions.)

There would be about 9 miles of the paved road prescription, about 12 miles of the improved gravel prescription, and about 3 miles of the primitive prescription.

The remainder of this discussion describes how different areas of the national lakeshore would be managed and what actions the National Park Service would take under alternative A. These actions are those believed most likely to take place over the next 15 years in the national lakeshore given alternative A's concept, management prescriptions, the conditions that already exist in the lakeshore, and the lakeshore's environmental constraints. Under this alternative, new facilities would be constructed in already disturbed areas where possible. Disturbance to sensitive areas such as threatened and endangered species habitat and archeological sites would also be avoided or mitigated whenever possible.

Orientation/History Prescription

The NPS/USFS information center at Munising is where visitors to the national lakeshore and nearby Hiawatha National Forest obtain information about recreational opportunities and obtain backcountry permits. The center would be managed

according to the orientation/history prescription (no change in management).

Munising Falls, Sand Point, and the Schoolcraft furnace and kilns would also be managed as orientation/history. The furnace and kilns would continue to be protected.

Once the lakeshore headquarters function was relocated away from Sand Point and the Munising Range Light Station to the Munising administration facility area adjacent to the Munising maintenance facility, visitors would have opportunities to learn about Coast Guard history at Sand Point. (The Munising Range Light Station would be in the developed prescription while being used for administrative purposes.) The Sand Point Coast Guard station and boat house would be rehabilitated/preserved and adaptively use to protect the architectural values associated with their period of significance (1933- 46, with an emphasis on the 1940s era). The cultural landscape would be restored and preserved to reflect the ambiance and most significant elements of this period in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*). The site would also be actively interpreted. The first floor of the Coast Guard station would be restored to the 1940s Coast Guard era, and the boat house would be interpreted (with a 1940s focus).

When the Munising Range Light Station is no longer needed for administrative purposes, the site would be interpreted as a component of the national lakeshore's preservation and interpretation of the Lake Superior maritime history and the U.S. Coast Guard involvement in the region. It is the national lakeshore's intention to manage and maintain this property as a historic site. The station would be rehabilitated, preserved, and adaptively used for temporary staff offices until the new

administration facility is completed on County Road H- 58. (The U.S. Coast Guard would continue to maintain the operating aids to navigation [the front and rear range lights] that comprise two of the six structures on the property.) The cultural landscape would be rehabilitated to reflect the ambiance and significant elements of the period of significance in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*). Interpretation of the site would be via onsite wayside exhibits.

The Miners Castle area provides easy access to a popular geologic feature and to the Lake Superior shoreline. This area would be managed as orientation/history in this alternative. Opportunities for visitors to become oriented to the national lakeshore and learn about lakeshore resources would be available.

The Au Sable Light Station area would be managed as orientation/history. Visitors would be able to easily get to the light station via a trail, and light station tour and day hiking opportunities would be available. The exteriors of the small ancillary structures would be rehabilitated, and the interiors would be renovated for historic interpretation and adaptive use. Preservation treatment that meets the *Secretary of the Interior's Standards for the Treatment of Historic Properties* would also be done on the smaller structures to protect the station's architectural and interpretive values. The cultural landscape would be restored and preserved to reflect the early 1900s time period based on the approved 1999 "Cultural Landscape Report." Restrooms and utilities would also be added without detracting from the historic scene.

The Abrahamson barn, adjacent to the Grand Sable visitor center, would be rehabilitated, and the cultural landscape would be

rehabilitated and preserved to a facsimile of its period of significance in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*). For example, some farm fields might be cleared, some orchards might be managed, and certain fields might be leased for growing hay.

The Coast Guard Station in Grand Marais, also managed as orientation/ history, would be preserved, rehabilitated, and adaptively used. The cultural landscape would be rehabilitated and preserved to a facsimile of its 1940s period of significance, in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*) and a site plan for improvements (comfort station, parking, and access for visitors with disabilities) would be developed; management of adjacent land (parking lot, etc.) would be transferred from the Coast Guard and Army Corps of Engineers to the National Park Service. (This area developed for day use would exclude critical habitat for the piping plover.) All management actions would be consistent with re- creation of the 1940s historic scene. Because the administrative offices and maintenance function would move to the new east- end administration/ maintenance facility, there would likely be increased space for the Maritime Museum.

The Grand Marais Harbor of Refuge quarters would be preserved, rehabilitated, and adaptively used. The cultural landscape would be rehabilitated and preserved to a facsimile of its period of significance in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the

Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes).

The Grand Sable visitor center and the Grand Marais Maritime Museum would be managed as orientation/history to provide opportunities for comprehensive interpretation of agricultural and maritime history. The desired conditions would be that visitors are well oriented as they enter the lakeshore from the east and are able to obtain any permits they need.

Casual Recreation Prescription

The area between Munising Falls and the east end of Miners Beach would be managed as casual recreation. A new drive-in campground, similar in character and size to the existing Twelvemile Beach and Hurricane River campground (25- 35 sites), and trails would be built in the Miners area. Beaver Lakes would also be managed under the casual recreation prescription to maintain the current rustic drive-in camping experience and boating opportunities. An exception to this would be that Miners Lake would be managed as nonmotorized.

At the Becker farm, the open-field characteristics (cultural landscape) of the historic farmstead would be rehabilitated and preserved.

The Twelvemile Beach and Hurricane River campground areas would also be managed as casual recreation. This would mean no change at the Twelvemile Beach campground. A detailed site plan for redesign of the Hurricane River campground/Au Sable Light Station area would be developed. Desired conditions for the redesigned area include better protection of the wet areas adjacent to the lower campground loop, improved vehicular circulation, and better separation of campground activities from day uses. The site

plan should consider removing the lower campground loop and converting a portion of this area to day use parking to serve Au Sable Light Station visitors. A replacement campground loop could be constructed only if a suitable location could be found.

The Log Slide area would be managed as casual recreation, and easy access to this popular area would be maintained (requiring no change from existing management).

At the east end of the lakeshore an area around Grand Sable Lake and Sable Falls would be managed as casual recreation to maintain recreational opportunities and access. At Grand Sable Lake motorized boat use (50 horsepower or less) would continue.

The 0.25-mile-wide strip of Lake Superior surface waters within the national lakeshore would be in the casual recreation management prescription, so motorized and nonmotorized boating activities and access from Lake Superior would continue. Recommendations would be made to tour boat operators to reduce the noise coming from the tour boat public address system so that intrusion on the natural quiet would be minimized.

The National Park Service would encourage management of Kingston Lake and the adjacent state forest campground to be managed consistent with the casual recreation prescription and to maintain the existing visitor opportunities at this popular state-managed recreation area.

Mixed Use Prescription

The mixed use management prescription in alternative A would be in most of the inland buffer zone and within the shoreline zone in an area just east of Beaver Basin (see Alternative A map). Mixed use areas would be managed to continue opportunities for extractive and recreational activities. The National Park Service would seek to continue

cooperative management or zoning arrangements with other landholders in these areas.

Pristine Prescription

Grand Sable Dunes would be managed under the pristine prescription, consistent with its status as a research natural area. Natural conditions and special resources associated with the dune system would be maintained; there would be no change in management.

Primitive Prescription

Beaver Basin would be managed under the primitive prescription to maintain opportunities for a relatively remote backcountry experience. Dispersed use would continue. An old garage structure would be removed, a gravel pit would be reclaimed, and two track roads in the area would be allowed to gradually revert to more natural conditions. Chapel Basin would also be managed as primitive (essentially no change).

Developed Prescription

The developed management prescription would be for areas that are primarily administrative or private residential. The area around the national lakeshore maintenance facility off H- 58, near Munising, would be managed as developed. The lakeshore headquarters function would be relocated from Sand Point and the Munising Range Light Station to this area. A new administration building (about 20,000 square feet), would include curatorial space that is consistent with NPS standards and would be built on land that was prepared for the new building during construction of the Munising maintenance facility.

The areas along Carmody Road, Monette Road, and Chapel Road would be managed as developed to allow private residential use to continue.

Landowners of areas in the inland buffer zone near Miners Castle Road, around Shoe Lakes, south of Log Slide, and around Kingston Lake would be encouraged to manage these lands consistent with the intent of the developed prescription to allow for future private residential use and development. (This is consistent with current county and/or township zoning.)

East- end administrative and maintenance functions would be consolidated in a new facility (about 6,700 square feet) near Grand Marais. (The existing maintenance facility would be removed; it consists of a few converted farm buildings and is substandard and too small).

Road Prescriptions

The county would be encouraged to pave the entire stretch of County Road H- 58 from Munising to Grand Marais to provide easy access along the national lakeshore's principal transportation route. This would involve paving sections that are gravel or sand (about 60% of the road between Munising and Grand Marais). Other paved roads would include Sand Point, Carmody (except the east- west portion), Miners Castle, Monette, a portion of Miners Beach Road, and Sable Falls roads (no change from existing conditions).

The Little Beaver Lake road would be managed as an improved gravel road (no change). Other improved gravel roads would include Miners Falls and Beach roads, Chapel Road, Little Beaver Lake road, Twelvemile and Hurricane campground and access roads, Log Slide road, and the Grand Sable Lake roads (no change from existing conditions).

The Beaver Basin overlook road would be managed according to the primitive road prescription (no change from existing conditions).

WILDERNESS

There would be no proposal to designate wilderness at Pictured Rocks National Lakeshore.

COSTS

Costs are given for comparison to other alternatives only and are not to be used for budgeting purposes. Although the numbers appear to be absolutes, they represent a mid- point in a possible range of costs. The costs developed are total life- cycle costs, which are inclusive of all initial costs (new development including transportation infrastructure costs, rehabilitation, interpretive media, etc.), replacement costs, and recurring annual costs such as national lakeshore operations.

All of these costs are projected out for 25 years, and shown as the worth in today's dollars. For a more detailed explanation of life cycle costs, please refer to the "Development of GMP Cost Estimates" section earlier in this chapter. The initial capital cost for alternative A is \$11,283,000. The recurring or replacement costs would be \$943,000. The recurring annual costs would be \$24,623,000. The total life- cycle cost for this alternative would be \$36,850,000.

Improving 20 miles of H- 58 to a paved surface would cost an additional \$18.5 million. These costs are the responsibility of Alger County and would not be incurred by the National Park Service.

ALTERNATIVE B

Alternative B was eliminated from consideration.

ALTERNATIVE C

CONCEPT AND GENERAL MANAGEMENT STRATEGIES

Alternative C responds to public comments about making the national lakeshore an easier and more convenient place to visit. While much of the lakeshore would remain in a natural state, additional facilities and infrastructure would be provided to accommodate use and make it easier to get to primary lakeshore features like waterfalls, lakes, cultural resources, and the Lake Superior shoreline. Opportunities to understand and appreciate the lakeshore's history would be enhanced by expanded access at significant cultural sites. Ways to accommodate additional recreational use and to continue to provide a diversity of uses and experience opportunities throughout the national lakeshore would be explored.

Vehicular access and/or improved pedestrian access would be provided to additional lakeshore areas, features, and significant cultural resources. Many roads would be paved or improved to increase ease of access for visitors. The county would be encouraged to pave the entire stretch of County Road H- 58 from Munising to Grand Marais to provide easy access along the national lakeshore's principal transportation route. Facilities and infrastructure would be improved with the addition of a drive- in campground and the construction of a new overlook and access road. Several cultural landscapes would be restored and interpreted. Operational and administrative facilities would be consolidated near Munising and Grand Marais for efficiency. Local communities would be encouraged to provide visitor services because concession structures would not be added to the lakeshore.

Commercial boat tours of the Pictured Rocks would continue with recommendations made to tour boat operators to reduce the noise coming from the tour boat public address

system so that intrusion on the natural quiet would be minimized.

The national lakeshore would continue to be managed for the perpetuation and protection of the natural environment and the preservation of cultural features while making them available for appropriate public use. Many significant cultural resources would be preserved, upgraded, and/or adaptively used, and nonsignificant cultural resources would be adaptively used or left alone.

Grand Sable Dunes would continue to be managed as a research natural area.

Visitor use limits generally would not be imposed in the orientation/history, casual recreation, or mixed use prescriptions unless dictated by facility design capacities or to protect resources. Current backcountry use management policies would be continued, and additional visitor use limits could be imposed to achieve desired resource or social conditions in primitive and pristine areas. (See Alternative C map.) The National Park Service would continue to preserve the North Country National Scenic Trail's character and use as a premier hiking and backpacking trail.

Locally promulgated zoning would continue as the basic management tool in the inland buffer zone.

National lakeshore managers would continue to follow the special mandates and service-wide mandates and policies described earlier in the "Guidance for the Planning Effort" section of this document.

MANAGEMENT PRESCRIPTIONS AND RELATED ACTIONS

The greatest proportion of the national lakeshore (48%) would be managed under the

mixed- use prescription. The casual recreation prescription would cover the next greatest portion of the national lakeshore (25%), including the surface waters of Lake Superior to a distance of 0.25 mile off- shore (within the national lakeshore boundary). About 13 % of the national lakeshore (Beaver Basin area) would be managed as primitive, the developed management prescription would cover about 10%, and about 3% (Grand Sable Dunes area) would be managed as pristine in alternative C. The orientation/ history prescription would cover about 1%. (See table 3 at the end of the description of the alternatives for a comparison of the balance of management prescriptions.)

There would be about 19 miles of the paved road prescription and about 16 miles of the improved gravel prescription. No roads would be managed as primitive in alternative C.

The remainder of this section describes how different areas of the national lakeshore would be managed and what actions the National Park Service would take under alternative C.

These actions are those believed most likely to take place during the next 15 years in the national lakeshore, given alternative C's concept, management prescriptions, the conditions that already exist in the lakeshore, and the lakeshore's environmental constraints. Under this alternative, new facilities would be constructed in already disturbed areas where possible. Disturbance to sensitive areas such as threatened and endangered species habitat and archeological sites would also be avoided or mitigated whenever possible.

Orientation/History Prescription

The NPS/USFS information center at Munising would be managed according to the orientation/ history prescription. This would require no change in management.

Munising Falls, Sand Point, and the Schoolcraft furnace and kilns would also be managed as orientation/history. The furnace and kilns would continue to be protected.

Once the lakeshore headquarters function was relocated away from Sand Point and the Munising Range Light Station to the new Munising administration facility adjacent to the Munising maintenance facility, a portion of Sand Point would be managed to provide visitors with opportunities to learn about Coast Guard history. (The Munising Range Light Station would be in the developed prescription while being used for administrative purposes.) The Sand Point Coast Guard station and boat house would be rehabilitated/preserved to protect the architectural values associated with their period of significance (1933- 46, with an emphasis on the 1940s era). The cultural landscape would be restored and preserved to reflect the ambiance and most significant elements of this period in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*). The site would also be actively interpreted. The first floor at the Coast Guard station would be restored to the 1940s Coast Guard era, and the boat house would be interpreted (with a 1940s focus).

When the Munising Range Light Station is no longer needed for administrative purposes, the site would be interpreted as a component of the national lakeshore's preservation and interpretation of the Lake Superior maritime history and the U.S. Coast Guard involvement in the region. It is the national lakeshore's intention to manage and maintain this property as a historic site. The station would be rehabilitated, preserved, and adaptively used for temporary staff offices until the new

LEGEND

Facilities

- ▲ Existing Campground
- △ Proposed Campground
- ⛶ Picnic Site
- Trail
- == Highway
- County Road

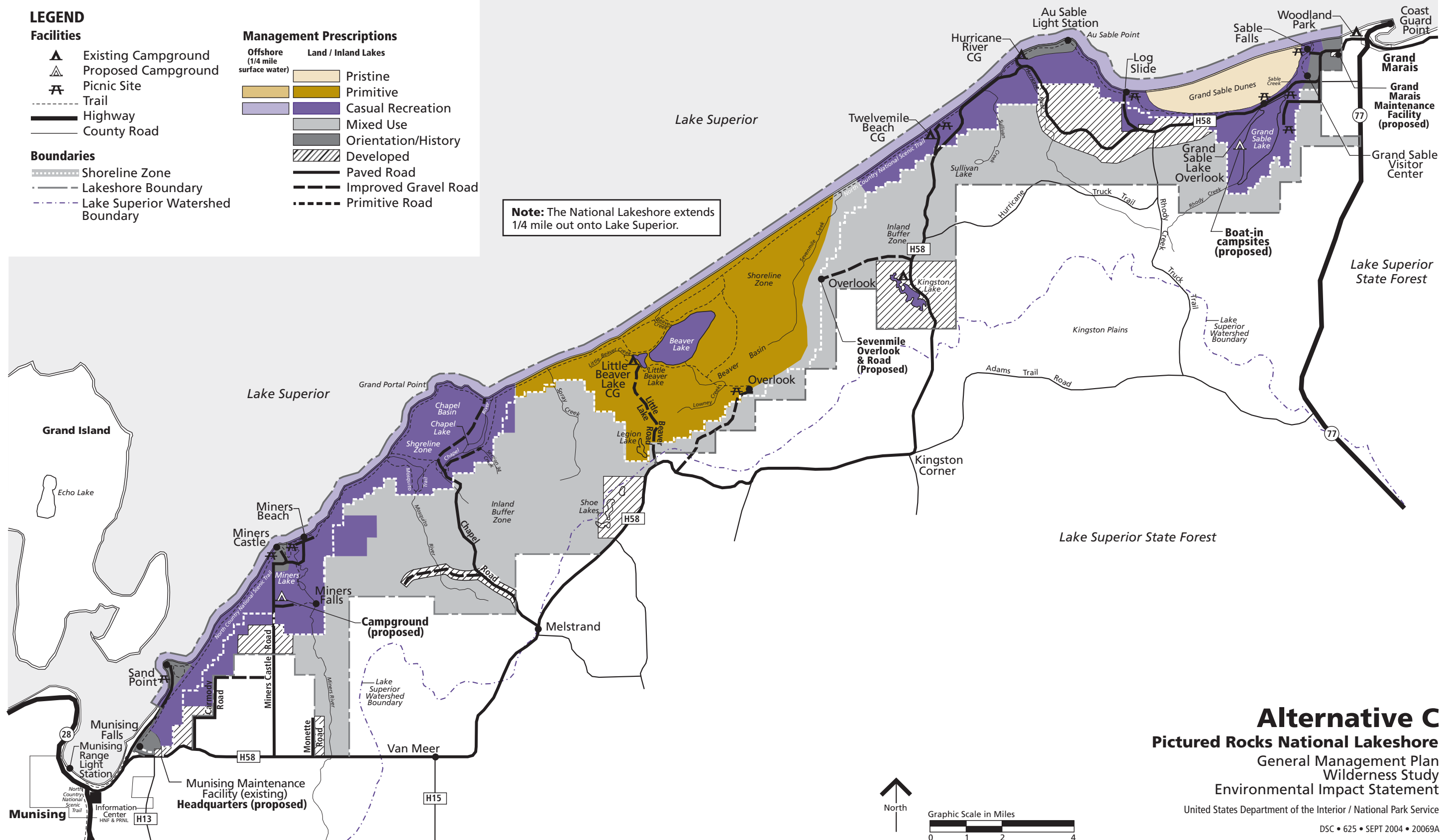
Boundaries

- Shoreline Zone
- Lakeshore Boundary
- Lake Superior Watershed Boundary

Management Prescriptions

- | Offshore
(1/4 mile
surface water) | Land / Inland Lakes |
|---|------------------------|
| ■ | ■ Pristine |
| ■ | ■ Primitive |
| ■ | ■ Casual Recreation |
| ■ | ■ Mixed Use |
| ■ | ■ Orientation/History |
| ■ | ■ Developed |
| ■ | ■ Paved Road |
| ■ | ■ Improved Gravel Road |
| ■ | ■ Primitive Road |

Note: The National Lakeshore extends 1/4 mile out onto Lake Superior.



Alternative C

Pictured Rocks National Lakeshore

General Management Plan Wilderness Study Environmental Impact Statement

United States Department of the Interior / National Park Service

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administration facility is completed on County Road H- 58. (The U.S. Coast Guard would continue to maintain the operating aids to navigation [the front and rear range lights] that comprise two of the six structures on the property.) The cultural landscape would be rehabilitated to reflect the ambiance and significant elements of the period of significance in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*). Interpretation of the site would be via onsite wayside exhibits.

The Miners Castle area provides easy access to a popular geologic feature and to the Lake Superior shoreline. This area would be managed as orientation/history in alternative C. Opportunities for visitors to become oriented to the national lakeshore and learn about lakeshore resources would be emphasized, so a small visitor orientation/interpretation building would be built (or existing buildings would be expanded) at the Miners Castle area to house this function.

The Au Sable Light Station area would be managed as orientation/history. Visitors would be able to easily get to the light station via a trail, and light station tour and day hiking opportunities would be available. The exteriors of the small ancillary structures would be rehabilitated, and the interiors would be renovated for historic interpretation and adaptive use. Preservation treatment that meets the *Secretary of the Interior's Standards for the Treatment of Historic Properties* would also be done on the smaller structures to protect the station's architectural and interpretive values. The cultural landscape would be restored and preserved to reflect the early 1900s time period based on the approved 1999 "Cultural Landscape Report." Restrooms and utilities would also be added without detracting from the historic scene.

The Abrahamson barn, near the Grand Sable visitor center, would be rehabilitated, and the cultural landscape would be rehabilitated and preserved to a facsimile of its period of significance in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*). For example, some farm fields might be cleared, some orchards might be managed, and certain fields might be leased for growing hay.

The Grand Marais Coast Guard Station, also managed as orientation/history, would be preserved, rehabilitated, and adaptively used. The cultural landscape would be restored and preserved to a facsimile of its 1940s period of significance, in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*), and a site plan for improvements (comfort station, parking, and access for people with disabilities) would be developed, as management of adjacent land (parking lot, etc.) would be transferred from the Coast Guard and Army Corps of Engineers to the National Park Service in this alternative. (This area developed for day use would exclude critical habitat for the piping plover.) All management actions would be consistent with re-creation of the 1940s historic scene. Because the administrative offices and maintenance function would move to the new east- end administration/ maintenance facility, there would likely be increased space for the Maritime Museum.

The Grand Marais Harbor of Refuge quarters would be preserved, rehabilitated, and adaptively used. The cultural landscape would be restored and preserved to a facsimile of its period of significance in line with recommendations from a future cultural

landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*).

The Grand Sable visitor center and the Grand Marais Maritime Museum would be managed as orientation/history to provide opportunities for comprehensive interpretation of agricultural and maritime history. The desired conditions would be that visitors are well oriented as they enter the lakeshore from the east and are able to obtain any permits they need.

Casual Recreation Prescription

The area between Munising Falls to the east end of Chapel Basin would be managed as casual recreation. In alternative C the Miners area (except Miners Castle) would be managed for casual recreation to allow development of a new drive-in campground (25-35 sites) and trails. Another exception would be that Miners Lake would be managed as nonmotorized.) The Mosquito River area would be in the casual recreation management prescription; it could undergo a substantial increase in use due to elimination of the Chapel backcountry campground (see below). The Mosquito Beach backcountry campground would be expanded if demand increased as expected.

At the Becker farm, the open-field characteristics of the historic farmstead (cultural landscape) would be rehabilitated and preserved.

Chapel Basin would be managed as casual recreation to allow improvements associated with providing drive-in access to Chapel Falls and beach (see improved gravel road prescription). Accordingly, the Chapel backcountry campground would be eliminated and day use facilities (parking, toilets) would be provided.

Beaver Lakes would also be managed under the casual recreation prescription to maintain the rustic drive-in camping experience and current boating opportunities (10 horsepower limit).

Landowners in the Kingston Lake area would be encouraged to manage the lake and the adjacent state forest campground to be consistent with the casual recreation prescription and to maintain the existing visitor opportunities at this popular state-managed recreation area.

The Twelvemile Beach and Hurricane River campgrounds would be managed as casual recreation. This would mean no change at the Twelvemile Beach campground. At each of these campgrounds enhancements would be made (comfort stations, water and electric service, etc.) to improve sanitation and visitor comfort. A detailed site plan for redesign of the Hurricane River campground/Au Sable Light Station area would be developed. Desired conditions for the redesigned area include better protection of the wet areas adjacent to the lower campground loop, improved vehicular circulation, and better separation of campground activities from day uses. The site plan should consider removing the lower campground loop and converting a portion of this area to day use parking to serve Au Sable Light Station visitors. A replacement campground loop could be constructed only if a suitable location could be found.

The Log Slide area would be managed as casual recreation, and easy access to this popular area would be maintained (no change from current management).

At the east end of the lakeshore, the area around Grand Sable Lake would be managed as casual recreation to increase recreational opportunities and improve access. At Grand Sable Lake boat-in campsites would be added. Boating on Grand Sable Lake would continue (including motorboats with 50 horsepower motors or less).

The 0.25-mile-wide strip of Lake Superior within the national lakeshore would be in the casual recreation management prescription, so current motorized and nonmotorized boating activities and access from Lake Superior would continue. Recommendations would be made to tour boat operators to reduce the noise coming from the tour boat public address system.

Mixed Use Prescription

The mixed use management prescription in alternative C would be in most of the inland buffer zone and within the shoreline zone in an area just east of Beaver Basin (see Alternative C map). Mixed use areas would be managed to continue opportunities for extractive and recreational activities. The National Park Service would seek to continue cooperative management or zoning arrangements with other landholders in these areas.

An overlook in the Sevenmile Creek area would be added contingent on the state donating an easement across about 240 acres of their land and the acquisition of an easement on about 10 acres of ForestLand Group, Limited Liability Corporation land. (The national lakeshore's establishing legislation expressly states that property owned by the state may be acquired only by donation.) The overlook would be on the ridge and the parking lot would be placed back from the rim edge to mitigate noise, and it would be screened by vegetation; there would be limited vista clearing and a short walk to the overlook. All improvements would depend on meeting national environmental compliance and resource protection laws. This overlook would provide one of the most spectacular vistas in the national lakeshore, overlooking Sevenmile Creek, Beaver Basin, Grand Portal, and Lake Superior.

Pristine Prescription

Grand Sable Dunes would be managed under the pristine prescription, consistent with its status as a research natural area. Natural conditions and special resources associated with the dune system would be maintained; there would be no change in management.

Primitive Prescription

Beaver Basin would be managed under the primitive prescription to maintain opportunities for a relatively remote backcountry experience. An old garage structure would be removed, a gravel pit would be reclaimed, and two track roads in the area would be allowed to revert to more natural conditions. Visitor use would continue to be dispersed throughout the basin.

Developed Prescription

The developed management prescription would be for areas that are primarily administrative or residential. The area around the national lakeshore maintenance facility off H-58, near Munising, would be managed as developed. The lakeshore headquarters function would be relocated from Sand Point and the Munising Range Light Station to this area. (The building used for headquarters is too small to accommodate current staff and is substandard with respect to utilities and accessibility.) A new administration building (about 20,000 square feet) would include curatorial space that is consistent with NPS standards and would be built on land that was prepared for the new building during construction of the Munising maintenance facility.

Landowners of the areas along Carmody, Monette, and Chapel Roads (see Alternative C map) would be encouraged to manage these lands consistent with the intent of the

developed prescription to allow private residential use to continue.

Landowners of areas in the inland buffer zone near Miners Castle Road, around Shoe Lakes, and around Kingston Lake (except the campground), and south of the Log Slide area along County Road H- 58 (see map) would be encouraged to manage these lands consistent with the intent of the developed prescription to allow for future private residential use and development. (This is consistent with current county and township zoning.)

East- end administrative and maintenance functions would be consolidated in a new facility (about 6,700 square feet) near Grand Marais, also managed in the developed prescription. (The existing maintenance facility would be removed; it consists of a few converted farm buildings and is substandard and too small).

Road Prescriptions

The county would be encouraged to pave the stretch of County Road H- 58 from Munising to Grand Marais. (Sections between Little Beaver Lake road and Grand Sable Lake overlook (about 60% of H- 58) are currently gravel or sand.) Paving would provide safe, easy access along the national lakeshore's principal transportation route.

To provide easier access to major national lakeshore features there would be more roads in the paved road prescription than in any other alternative: Sand Point, Carmody (except the east- west portion), Miners Castle, Miners Falls, Miners Beach, Monette, and Chapel Roads, a portion of Miners Beach Road, Twelvemile Beach and Hurricane River access and campground roads, and Log Slide and Grand Sable Lake roads. The following roads would require paving (the others are paved already): Miners Falls, Miners Beach, Chapel (to south lakeshore boundary), Log Slide, and Grand Sable Lake.

Easier access to Chapel Falls, Chapel Beach, and Chapel Rock would be provided by upgrading old roads now managed as hiking trails to improved gravel roads (vehicular access would be permitted). The Little Beaver Lake road would also be managed as improved gravel (no change from existing conditions). The rough Beaver Basin overlook road would be upgraded to improved gravel for easier access to this scenic viewpoint, consistent with the intent of this alternative. A new road to Sevenmile Creek overlook from County Road H- 58 would be constructed and managed as improved gravel. This road would create vehicular access to scenic views of the Sevenmile Creek area, Grand Portal, Lake Superior, and Beaver Lake, a desired condition for alternative C.

There would be no roads in the primitive road prescription in this alternative.

WILDERNESS

There would be no proposal for designation of wilderness at Pictured Rocks National Lakeshore.

COSTS

Costs are given for comparison to other alternatives only and are not to be used for budgeting purposes. Although the numbers appear to be absolutes, they represent a mid-point in a possible range of costs. The costs developed are total life- cycle costs, which are inclusive of all initial costs (new development including transportation infrastructure costs, rehabilitation, interpretive media, etc.), replacement costs, and recurring annual costs such as national lakeshore operations.

All of these costs are projected out for 25 years, and shown as the worth in today's dollars. For a more detail explanation of life cycle costs, please refer to the "Development of GMP Cost Estimates" section earlier in this chapter. The initial capital cost for alternative

C is \$48,066,000. The recurring or replacement costs would be \$1,188,000. The recurring annual costs would be \$24,581,000. The total life-cycle cost for this alternative would be \$73,835,000.

Improving 20 miles of H- 58 to a paved surface would cost an additional \$18.5 million. These costs are the responsibility of Alger County and would not be incurred by the National Park Service.

ALTERNATIVE D

Alternative D was used as the basis for the preferred alternative and was therefore eliminated from further analysis.

ALTERNATIVE E

CONCEPT AND GENERAL MANAGEMENT STRATEGIES

This concept responds to public comments that encouraged the National Park Service to commit much of the national lakeshore to wilderness. It also responds to comments that the national lakeshore should be available to all user groups, not just a select few. Therefore, the national lakeshore would continue to provide a diversity of use and visitor experience opportunities separated geographically – the remote and primitive uses would be found in the central portion of the national lakeshore (proposed wilderness), while the eastern and western portions would be more accessible. Some cultural and natural features at the east and west portions of the lakeshore would be easier to get to and have more facilities and amenities than now.

In alternative E much of the middle third of the national lakeshore would be proposed for wilderness designation. Beaver Basin, Chapel Basin, and adjacent areas would be included in the wilderness proposal, maximizing opportunities for nonmotorized recreation such as hiking and backcountry camping in a relatively remote, quiet, natural area in the central portion of the national lakeshore. Within the middle (proposed wilderness) portion of the lakeshore, structures would be removed, and roads would be converted to trails or closed and allowed to revert to natural vegetation.

To accommodate possible increased use in the nonwilderness portion of the national lakeshore, certain roads would be upgraded (the county would be encouraged to upgrade H-58), and a campground would be added in the Miners area. Operational facilities would be consolidated near Munising and Grand Marais for efficiency. Concession structures would not be added to the lakeshore, and

local communities would be encouraged to provide visitor services (see Alternative E map).

The national lakeshore would continue to be managed for the perpetuation and protection of the natural environment and the preservation of cultural features while making them available for appropriate public use. Several significant cultural resources would be preserved, upgraded, and/or adaptively used, and nonsignificant cultural resources would be adaptively used or left alone.

Grand Sable Dunes would continue to be managed as a research natural area.

Visitor use limits generally would not be imposed in the orientation/history, casual recreation, or mixed use prescriptions, unless dictated by facility design capacities or to protect resources. Existing backcountry use management policies would be continued, and additional visitor use limits could be imposed to achieve desired resource or social conditions in primitive and pristine areas. The National Park Service would continue to preserve the North Country National Scenic Trail's character and use as a premier hiking and backpacking trail.

Locally promulgated zoning would continue as the basic management tool in the inland buffer zone.

National lakeshore managers would continue to follow the special mandates and service-wide mandates and policies described earlier in the "Guidance for the Planning Effort" section of this document.

MANAGEMENT PRESCRIPTIONS AND RELATED ACTIONS

The greatest proportion of the national lakeshore (about 45%) would be managed under the mixed use prescription. About 39% of the national lakeshore would be managed as primitive, including the central Lake Superior portion of the national lakeshore, and about 11% of the national lakeshore would be managed as casual recreation. About 3% of the national lakeshore would be managed as the most restrictive pristine prescription. The orientation/ history prescription would cover about 1%, and the developed management prescription would cover about 1%. (See table 3 at the end of the description of the alternatives for a comparison of the balance of management prescriptions.)

There would be about 9 miles of the paved road prescription, about 13 miles of the improved gravel prescription, and no miles managed as the primitive prescription.

The remainder of this discussion describes how different areas of the national lakeshore would be managed and what actions the National Park Service would take under alternative E. These actions are those believed most likely to take place during the next 15 years in the national lakeshore, given alternative E's concept, management prescriptions, the conditions that already exist in the lakeshore, and the lakeshore's environmental constraints. Under this alternative, new facilities would be constructed in already disturbed areas where possible.

Orientation/History Prescription

The NPS/USFS information center at Munising would be managed according to the orientation/ history prescription (no change in management).

Munising Falls, Sand Point, and the Schoolcraft furnace and kilns would also be

managed as orientation/history. The furnace and kilns would continue to be protected.

Once the lakeshore headquarters function was relocated away from Sand Point and the Munising Range Light Station to the Munising administration facility adjacent to the Munising maintenance facility, a portion of Sand Point would be managed to provide visitors with opportunities to learn about Coast Guard history. (The Munising Range Light Station would be in the developed prescription while being used for administrative purposes.) The Sand Point Coast Guard station and boat house would be rehabilitated/preserved to protect the architectural values associated with their period of significance (1933- 46, with an emphasis on the 1940s era). The cultural landscape would be restored and preserved to reflect the ambiance and most significant elements of this period in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*). The site would also be actively interpreted. The first floor of the Coast Guard station would be restored to the 1940s Coast Guard era, and the boat house would be interpreted (with a 1940s focus).

When the Munising Range Light Station is no longer needed for administrative purposes, the site would be interpreted as a component of the national lakeshore's preservation and interpretation of the Lake Superior maritime history and the U.S. Coast Guard involvement in the region. It is the national lakeshore's intention to manage and maintain this property as a historic site. The station would be rehabilitated, preserved, and adaptively used for temporary staff offices until the new administration facility is completed on County Road H- 58. (The U.S. Coast Guard would continue to maintain the operating aids to navigation [the front and rear range lights] that comprise two of the six structures on the

LEGEND

Facilities

- ▲ Existing Campground
- △ Proposed Campground
- ⛶ Picnic Site
- Trail
- == Highway
- County Road

Boundaries

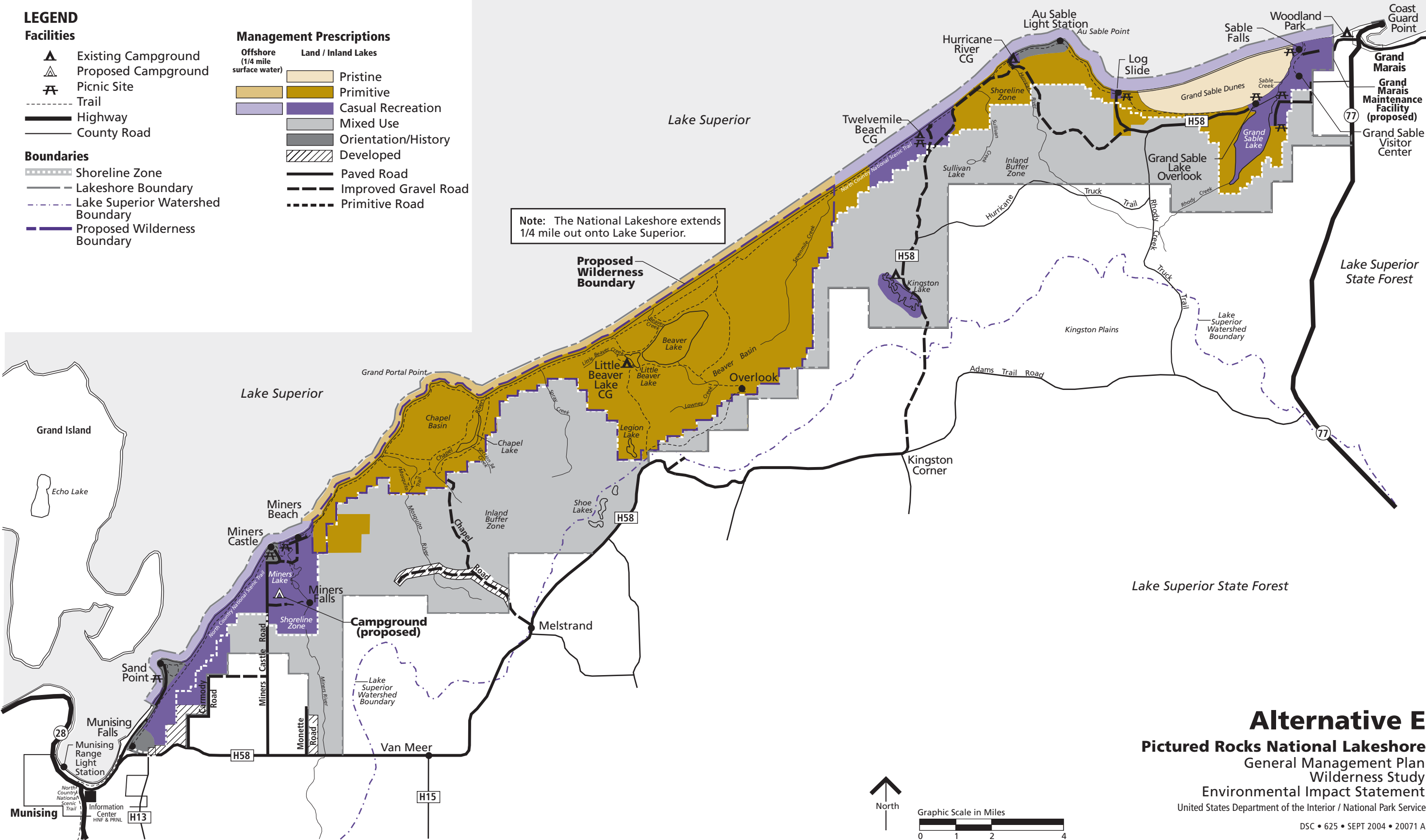
- Shoreline Zone
- Lakeshore Boundary
- Lake Superior Watershed Boundary
- Proposed Wilderness Boundary

Management Prescriptions

- | Offshore
(1/4 mile
surface water) | Land / Inland Lakes |
|---|--------------------------|
| | ■ Pristine |
| | ■ Primitive |
| | ■ Casual Recreation |
| | ■ Mixed Use |
| | ■ Orientation/History |
| | ■ Developed |
| | — Paved Road |
| | --- Improved Gravel Road |
| | --- Primitive Road |

Note: The National Lakeshore extends 1/4 mile out onto Lake Superior.

Proposed Wilderness Boundary



Alternative E
Pictured Rocks National Lakeshore
General Management Plan
Wilderness Study
Environmental Impact Statement
United States Department of the Interior / National Park Service
DSC • 625 • SEPT 2004 • 20071 A

property.) The cultural landscape would be rehabilitated to reflect the ambiance and significant elements of the period of significance in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*). Interpretation of the site would be via onsite wayside exhibits.

The Miners Castle area provides easy access to a popular geologic feature and to the Lake Superior shoreline. This area would be managed as orientation/history in alternative E. Opportunities for visitors to become oriented to the national lakeshore and learn about lakeshore resources would be emphasized, so a small visitor orientation/interpretation building would be built (or existing buildings would be expanded) at Miners Castle.

The Au Sable Light Station area would be managed as orientation/history. Visitors would be able to easily get to the light station via a trail, and light station tour and day hiking opportunities would be available. The exteriors of the small ancillary structures would be rehabilitated, and the interiors would be renovated for historic interpretation and adaptive use. Preservation treatment that meets the *Secretary of the Interior's Standards for the Treatment of Historic Properties* would also be done on the smaller structures to protect the station's architectural and interpretive values. The cultural landscape would be restored and preserved to reflect the early 1900s time period based on the approved 1999 "Cultural Landscape Report." Restrooms and utilities would also be added without detracting from the historic scene.

The Coast Guard Station in Grand Marais, also managed as orientation/history, would be preserved, rehabilitated, and adaptively used. The cultural landscape would be rehabilitated

and preserved to a facsimile of its 1940s period of significance, in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*), and a site plan for day use improvements (comfort station, parking, and access for people with disabilities) would be developed. Management of adjacent land (parking lot, etc.) would be transferred from the Coast Guard and Army Corps of Engineers to the National Park Service. ((The area developed for day use would exclude critical habitat for the piping plover.) All management actions would be consistent with re-creation of the 1940s historic scene. Because the administrative offices and maintenance function would move to the new east-end administration and maintenance facility, there would likely be increased space for the Maritime Museum.

The Grand Marais Harbor of Refuge quarters would be preserved, rehabilitated, and adaptively used. The cultural landscape would be rehabilitated and preserved to a facsimile of its period of significance in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*).

The Grand Sable visitor center and the Grand Marais Maritime Museum would be managed as orientation/history to provide opportunities for comprehensive interpretation of agricultural and maritime history. The desired conditions would be that visitors are well oriented as they enter the lakeshore from the east and are able to obtain any permits they need.

Casual Recreation Prescription

The area between Munising Falls and Miners Beach would be managed as casual recreation.

At the Becker farm, the open-field characteristics (cultural landscape) of the historic farmstead would be rehabilitated and preserved.

In alternative E the Miners area (except Miners Castle) would be managed for casual recreation to allow development (e.g., a new drive-in campground [25-35 sites] and trails similar in character and size to the Hurricane River and Twelvemile Beach campgrounds). An exception would be that Miners Lake would be managed as nonmotorized.

Landowners in the Kingston Lake area would be encouraged to continue to manage these lands and waters consistent with the intent of the casual recreation prescription (no changes in management would be anticipated).

The Twelvemile Beach and Hurricane River campground areas would also be managed as casual recreation. This would mean no change at the Twelvemile Beach campground. A detailed site plan for redesign of the Hurricane River campground area would be developed. Desired conditions for the redesigned area include better protection of the wet areas adjacent to the lower campground loop, improved vehicular circulation, and better separation of campground activities from day uses. The site plan should consider removing the lower campground loop and converting a portion of this area to day use parking to serve Au Sable Light Station visitors. A replacement campground loop could be constructed only if a suitable location could be found.

The Log Slide area would be managed as casual recreation (no changes would be anticipated).

The Abrahamson barn, near the Grand Sable visitor center, would be rehabilitated, and the cultural landscape would be rehabilitated and preserved to a facsimile of its period of significance in line with recommendations from a future cultural landscape report or other appropriate research and treatment plan (and in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*). For example, some farm fields might be cleared, some orchards might be managed, and certain fields might be leased for growing hay.

Part of the far east end of the national lakeshore, including Grand Sable Lake, would be managed as casual recreation. In this alternative access to east end facilities and attractions would be improved. Boating on Grand Sable Lake would continue (including motorboats with 50 hp or less).

The 0.25-mile-wide strip of Lake Superior within the national lakeshore stretching from the west lakeshore boundary to the east end of Miners Beach would be in the casual recreation management prescription. The 0.25-mile-wide Lake Superior strip stretching from the mouth of Sevenmile Creek to the east boundary near Grand Marais would also be managed as casual recreation. Motorized and nonmotorized boating and access from Lake Superior would be allowed to continue in these areas.

Mixed Use Prescription

The mixed use management prescription in alternative E would generally be applied to parts of the inland buffer zone that are not within the proposed wilderness. These mixed use areas would be managed to continue opportunities for extractive and recreational activities as authorized in the legislation that established the national lakeshore. The National Park Service would seek to continue cooperative management and zoning in these

areas. Management of these areas would not be significantly different than current management.

Pristine Prescription

Grand Sable Dunes would be managed under the pristine prescription, which is consistent with its status as a research natural area. Natural conditions and special resources associated with the dune system would be maintained, but this would not constitute a change in management.

Primitive Prescription

Most of the shoreline zone and part of the inland buffer zone in the middle of the national lakeshore would be managed as primitive to provide maximum opportunities for remote, wild experiences and maintain natural conditions. Primitive trails and backcountry campsites would be allowable uses. Included in the primitive prescription, from west to east, would be the area between Miners Beach and Chapel Basin, Chapel Basin, the Spray Creek area, Beaver Basin, and the rim area to the east of Beaver Basin (see Alternative E map). Roads in these areas (mostly two-tracks) would be allowed to revert to natural conditions, and motorized boats would no longer be allowed on Beaver Lakes.

To bring the area into conformance with the primitive management prescription and proposed wilderness, the Little Beaver Lake and the Beaver Basin overlook roads would be closed and converted to hiking trails, the trail-head parking lots at the ends of those roads would be closed, and most other man-made structures (the water system, garage, and amphitheater, for example) would be removed.

From the east end of Miners Beach to the mouth of Sevenmile Creek, the 0.25-mile-wide

strip of Lake Superior within the lakeshore would be managed under the primitive prescription. Motorized boats including tour boats would no longer be permitted to use these waters. The rationale for managing this area as primitive is to support wilderness values and opportunities for wilderness recreation on wilderness lands in adjacent areas. It would also provide a quieter section of shoreline for nonmotorized boat users.

At the east end of the national lakeshore, an area west of Sullivan Creek to Grand Sable Lake and around the lake would be managed as primitive (no change in management would be required).

Developed Prescription

The existing lakeshore maintenance facility off H-58, near Munising, would be managed under the developed prescription. The lakeshore headquarters function would be relocated from Sand Point and the Munising Range Light Station to this area. A new administration building (about 20,000 square feet), would include curatorial space that is consistent with NPS standards and would be built on land that was already prepared for the new building during construction of the Munising maintenance facility.

Landowners of areas along Carmody, Monette, and Chapel Roads would be encouraged to continue to manage these lands consistent with the intent of the developed prescription to allow private residential use to continue (no change from current conditions).

There would be another developed area at the east end of the national lakeshore. East-end administrative and maintenance functions would be consolidated in a new facility (about 6,700 square feet) near Grand Marais. (The existing east-end maintenance area would be removed; it consists of a few converted farm buildings, and is substandard and too small).

Road Prescriptions

The county would be encouraged to pave County Road H-58 from Munising to Kingston Corner and from Log Slide to Grand Marais and the Grand Sable Lake boat ramp access road to provide easy, scenic access on these road stretches. Thus, parts that are gravel or sand should be paved to bring them into conformance with the paved road management prescription.

Sand Point, Carmody (except the east-west portion), Miners Castle, Monette, and Grand Sable Lake Roads, a portion of Miners Beach Road, and Log Slide access road would also be managed under the paved road prescription to provide easy access to primary national lakeshore features or to private residential areas. This would require that Grand Sable Lake and Log Slide roads be paved (the others are paved already). The developed road prescription for Grand Sable Lake would include the boat ramp at the end of the road.

The county would also be encouraged to make County Road H-58 from Kingston Corner to the Log Slide access road an improved gravel road to provide relatively easy access to primary national lakeshore features on the east end of the national lakeshore. This would involve upgrading rough gravel or sand portions to improved gravel.

Other roads managed under the improved gravel road prescription would include Miners Falls road, Miners Beach road, Chapel Road, Twelvemile Beach and Hurricane River campground and access roads. The intent in this alternative is to provide relatively easy access to primary national lakeshore features in these areas. Chapel Road is the only road requiring improvements to conform to the improved gravel road prescription.

There would be no roads in the primitive management prescription in alternative E.

WILDERNESS

The National Park Service would propose 16,959 acres for wilderness designation under alternative E (see Alternative E map, wilderness boundary). This is equal to about 23% of the national lakeshore, as compared to 16% in the preferred alternative. The area proposed for wilderness includes Beaver Basin, Chapel Basin, and an area between Beaver and Chapel Basins.

Areas proposed for wilderness would be managed under the primitive management prescription. The primitive management prescription is consistent with managing to preserve wilderness characteristics of the area.

COSTS

Costs are given for comparison to other alternatives only and are not to be used for budgeting purposes. Although the numbers appear to be absolutes, they represent a mid-point in a possible range of costs. The costs developed are total life-cycle costs, which are inclusive of all initial costs (new development including transportation infrastructure costs, rehabilitation, interpretive media, etc.), replacement costs, and recurring annual costs such as national lakeshore operations.

All of these costs are projected out for 25 years, and shown as the worth in today's dollars. For a more detail explanation of life cycle costs, please refer to the "Development of GMP Cost Estimates" section earlier in this chapter. The initial capital cost for alternative E is \$10,762,000. The recurring or replacement costs would be \$820,000. The recurring annual costs would be \$25,664,000. The total life-cycle cost for this alternative would be \$37,247,000.

Improving 16.6 miles of H-58 to a gravel surface would cost an additional \$8.5 million. The National Park Service would not incur these costs.

MITIGATION MEASURES COMMON TO ALL ALTERNATIVES

In the legislation that created it, Congress charged the National Park Service with managing the lands under its stewardship “in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (NPS Organic Act, 16 USC 1). As a result, the National Park Service routinely evaluates and implements mitigation whenever conditions occur that could adversely affect the sustainability of national park system (national lakeshore) resources.

To ensure that implementation of the alternatives protects unimpaired natural and cultural resources and the quality of the visitor experience, a consistent set of mitigation measures would be applied to actions proposed in this plan. The National Park Service would prepare appropriate environmental review (i.e., those required by the National Environmental Policy Act, National Historic Preservation Act, and other relevant legislation) for these future actions. As part of the environmental review, the National Park Service would avoid, minimize, and mitigate adverse impacts when practicable.

SUSTAINABLE DESIGN AND AESTHETICS

Projects should avoid or minimize adverse impacts on natural and cultural resources. Development projects (e.g., buildings, facilities, utilities, roads, bridges, trails) or reconstruction projects (e.g., road reconstruction, building rehabilitation, utility upgrades) should be designed to work in harmony with the surroundings, particularly in historic districts. Projects should reduce, minimize, or eliminate air and water nonpoint-source pollution. Projects should be sustainable whenever practicable, by recycling and reusing materials, by minimizing materials, by minimizing energy consumption during the project, and by minimizing energy

consumption throughout the lifespan of the project.

MAINTAINING ECOLOGICAL INTEGRITY

National lakeshore managers will initiate a natural resource management project called Maintaining Ecological Integrity, which will develop quantifiable levels of intactness of important natural resource parameters that represent ecosystems in and adjacent to the national lakeshore. These levels will be considered minimum values necessary to ensure a naturally functioning ecosystem. The intent is to ensure overall integrity of resources while planning and implementing projects related to visitor services and managing visitor experience. Therefore, information on spatial and temporal distribution of visitors will be required to assess their effects on the ecosystem. This project will also address more difficult issues, including habitat fragmentation and cumulative effects. Examining results of impacts on natural resources ensures that visitors will continue to have a high-quality experience at Pictured Rocks National Lakeshore.

This project differs from long-term ecological monitoring in that cause-and-effect relationships are critical to determine program effectiveness. This project will continue indefinitely and will require more staff time than is currently available. Resulting project data may lead to changes in visitor activities, densities, or other controls. Visitor use, management activities, and development within Pictured Rocks National Lakeshore would be managed in the context of the Ecological Integrity program. As future development and/or visitor pressures increase, ecological mitigation would be conducted concurrently to compensate for

environmental impacts. The project goals are as follows:

- develop minimum standards for ecological integrity in the national lakeshore
- increase quality and utility of environmental compliance process
- provide guidance for understanding effects of various management alternatives and management decisions based on scientifically credible data

BEST MANAGEMENT PRACTICES DURING CONSTRUCTION

The following best management practices would be implemented, as appropriate, before, during, and/or after specific construction (for the purposes of this discussion, construction includes major repair and/or rehabilitation, demolition, deconstruction, reconstruction, restoration, etc.). Specific tasks would include, but are not limited to, the following:

- Implement a compliance- monitoring program in order to stay within the parameters of National Environmental Policy Act and National Historic Preservation Act compliance documents, U.S. Army Corps of Engineers Section 404 permits, etc. The compliance- monitoring program would oversee these mitigation measures and would include reporting protocols.
- Implement a natural resource protection program. Standard measures could include construction scheduling, biological monitoring, erosion and sediment control, the use of fencing or other means to protect sensitive resources adjacent to construction, the removal of all food- related items or rubbish, topsoil salvage, and revegetation. This could include specific construction monitoring by resource specialists as well as treatment and reporting procedures.
- Implement a cultural resource protection program. Standard measures could include the salvage of historic building materials, archeological monitoring during ground disturbance, the use of fencing or other means to protect sensitive resources adjacent to construction, and the preparation of a discovery plan to handle unanticipated exposure of buried human remains. This could include specific construction monitoring by resource specialists and culturally associated Native American people, as well as treatment and reporting procedures.
- Implement a traffic control plan, as warranted. Standard measures include strategies to maintain safe and efficient traffic flow during the construction period.
- Implement a dust abatement program. Standard dust abatement measures could include the following elements: water or otherwise stabilize soils, cover haul trucks, employ speed limits on unpaved roads, minimize vegetation clearing, and revegetate after construction.
- Implement standard noise abatement measures during construction. Standard noise abatement measures could include the following elements: a schedule that minimizes impacts on adjacent noise-sensitive uses, the use of the best available noise control techniques wherever feasible, the use of hydraulically or electrically powered impact tools when feasible, and the location of stationary noise sources as far from sensitive uses as possible.
- Implement a noxious weed abatement program. Standard measures could include the following elements: ensure construction- related equipment arrives on- site free of mud or feed- bearing material, certify all seeds and straw material as weed- free, identify areas of noxious weeds pre- construction, treat noxious weeds or noxious weed topsoil before construction (e.g., topsoil segregation, storage, herbicide treatment), and revegetate with appropriate native species.

- Implement a spill prevention and pollution control program for hazardous materials. Standard measures could include hazardous materials storage and handling procedures; spill containment, cleanup, and reporting procedures; and limitation of refueling and other hazardous activities to upland/ nonsensitive sites.
- Implement measures to reduce adverse effects of construction on visitor safety and experience.
- Implement a notification program. Standard measures could include notification of sensitive receptors, utilities, and emergency response units before construction activities.
- Implement an interpretation and education program. Continue directional signs and education programs to promote understanding among national lakeshore/ park visitors.
- Use silt fences, sedimentation basins, etc. in construction areas to reduce erosion, surface scouring, and discharge to water bodies.
- Develop revegetation plans for the disturbed area and require the use of native species. Revegetation plans should specify seed/plant source, seed/plant mixes, soil preparation, etc. Salvage vegetation should be used to the extent possible.
- Delineate wetlands and apply protection measures during construction. Wetlands would be delineated by qualified NPS staff or certified wetland specialists and clearly marked before construction work. Construction activities should be performed in a cautious manner to prevent damage caused by equipment, erosion, siltation, etc.

RESOURCE- SPECIFIC MEASURES

Species of Concern

Mitigation actions would occur during normal park operations as well as prior to, during, and

after construction to minimize immediate and long- term impacts to rare, threatened, and endangered species. These actions would vary by specific project and area of the national lakeshore affected. Many of the measures listed above for vegetation and wildlife would also benefit rare, threatened, and endangered species by helping to preserve habitat. Mitigation actions specific to rare, threatened, and endangered species would include the following:

- Conduct surveys for rare, threatened, and endangered species as warranted.
- Site and design facilities/actions to avoid adverse effects to rare, threatened, and endangered species. If avoidance is not feasible, minimize and compensate adverse effects on rare, threatened, and endangered species as appropriate and in consultation with the appropriate resource agencies.
- Develop and implement restoration and/or monitoring plans as warranted. Plans should include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.
- Implement measures to reduce adverse effects of non- native plants and wildlife on rare, threatened, and endangered species.

Noise

Mitigation measures would be applied to protect the natural sounds in the national lakeshore. Specific mitigation measures include:

- Implement standard noise abatement measures during park operations. Standard noise abatement measures could include the following elements: a schedule that minimizes impacts to adjacent noise-sensitive uses, use of the best available noise control techniques wherever feasible, use of hydraulically or electrically

powered impact tools when feasible, and location of stationary noise sources as far from sensitive uses as possible.

- Locate and design facilities to minimize objectionable noise.
- Work with Pictured Rocks Cruises to find ways to minimize the noise that carries inland from the public address system on tour boats.
- Encourage users of snowmobiles and personal watercraft to use the new quieter vehicles currently being produced.
- Explore options to reduce the sounds of logging activities in the inland buffer zone.

CULTURAL RESOURCES

The National Park Service would preserve and protect, to the greatest extent possible, resources that reflect human occupation of the Pictured Rocks area. Specific mitigation measures include the following:

- Subject projects to site- specific planning and compliance. Efforts would be made to avoid adverse impacts through use of the *Secretary of the Interior's Standards for Archeology and Historic Preservation*, and by using screening and/or sensitive design that would be compatible with historic resources.
- Conduct archeological site monitoring and routine protection. Conduct data recovery excavations at archeological sites threatened with destruction, where protection or site avoidance during design and construction is not feasible. Should archeological resources be discovered, stop work in that location until the resources were properly recorded by the National Park Service and evaluated under the eligibility criteria of the National Register of Historic Places. If, in consultation with the Michigan state historic preservation officer, the resources were determined eligible, implement appropriate measures either to avoid

further resource impacts or to mitigate the loss or disturbance of the resources.

- Avoid or mitigate impacts on ethnographic resources. Mitigation could include identification of and assistance in accessing alternative resource gathering areas, continuing to provide access to traditional use and spiritual areas, and screening new development from traditional use areas.
- Restore and rehabilitate cultural landscape resources to the extent feasible. This could entail restoring important historic viewsheds through manual thinning, rehabilitating agricultural fields and orchards, removing noncontributing and incompatible structures, and incorporating new additions using compatible design.
- Continue and formalize ongoing consultations with culturally associated Native American people. Protect sensitive traditional use areas to the extent feasible.
- Conduct additional background research, resource inventory, and national register evaluation where information about the location and significance of cultural resources is lacking. Incorporate the results of these efforts into site- specific planning and compliance documents.
- Mitigation measures include documentation according to standards of the Historic American Buildings Survey/Historic American Engineering Record (HABS/HARE) as defined in the Re- engineering Proposal (October 1, 1997). The level of this documentation, which includes photography, archeological data recovery, and/or a narrative history, would depend on significance (national, state, or local) and individual attributes (an individually significant structure, individual elements of a cultural landscape, etc.). When demolition of a historic structure is proposed, architectural elements and objects may be salvaged for reuse in rehabilitating similar structures, or they may be added to the national lakeshore's museum collection. In addition, the historical

alteration of the human environment and reasons for that alteration would be interpreted to national lakeshore visitors.

SCENIC RESOURCES

Mitigation measures are designed to minimize visual intrusions. These include the following:

- Where appropriate, facilities such as boardwalks and fences could be used to route people away from sensitive natural resources, while still permitting access to important viewpoints.
- Facilities should be designed, sited, and constructed to avoid or minimize adverse effects on natural communities and visual intrusion into the natural landscape.
- Provide vegetative screening, where applicable.

SOCIOECONOMIC ENVIRONMENTS

During the future planning and implementation of the approved management plan for

Pictured Rocks National Lakeshore, the National Park Service would work with local communities and county governments to further identify potential impacts and mitigation measures that would best serve the interests and concerns of both the National Park Service and the local communities. Partnerships would be pursued to improve the quality and diversity of community amenities and services.

VISITOR EXPERIENCE

Conduct an accessibility study to understand barriers to national lakeshore programs and facilities. Based on this study, implement a strategy to provide the optimum level of accessibility.

Conduct periodic studies of visitor experience, needs, level of satisfaction, etc. Based on these studies, implement strategies to provide optimum levels of visitor satisfaction.

FUTURE STUDIES AND RESEARCH NEEDED

After completion and approval of a general management plan for managing the national lakeshore, other more detailed studies and plans, including additional environmental compliance (National Environmental Policy Act, National Historic Preservation Act, and other relevant laws and policies), and public involvement, would be needed. Those additional studies include but are not limited to the following.

A visitor management study/plan for the lower Hurricane River and Au Sable Light Station areas would be done. The purpose of this plan would be to facilitate visitation to the Au Sable Light Station, protect and reduce vehicular and developmental impacts on wetlands and riparian resources in and adjacent to the lower Hurricane River campground, separate overnight camping and day use in the lower campground via revised or restructured facilities, and consider options for getting visitors to and from the light station, picnic areas, etc. This study should prescribe practical and environmentally sound methods for visitor use management at these related sites.

An air tour management plan, business plan, and cave management plan need to be completed for the national lakeshore.

Historic structure reports and cultural landscape reports need to be completed for the following areas: Munising Range Light

Station, Sand Point Coast Guard Station and boathouse, Grand Marais Coast Guard Station, the Harbor of Refuge quarters, the Abrahamson barn and farm structures, and the Becker farm fields.

The Maintaining Ecological Integrity program (see this topic under the previous “Mitigation Common to All Alternatives” section) would require the following studies and research:

- a project to quantify acceptable levels of loss of natural resources from visitor use and lakeshore development in the shoreline and inland buffer zones
- a determination of the current status of natural resources related to visitor use and lakeshore development in the shoreline and inland buffer zones
- monitoring of biological and physical parameters to ensure that determined levels of natural resource degradation are not exceeded in the shoreline and inland buffer zones as mandated by Congress
- a determination of appropriate levels of visitor use within the confines of acceptable levels of impact on natural resources
- monitoring of natural resource extraction (e.g., wildlife harvests, timber production, fishing) to ensure long- term viability of populations/species

TABLE 3: SUMMARY OF ALTERNATIVES

This table summarizes the key differences among the alternatives for the management of Pictured Rocks National Lakeshore. In all areas the no-action alternative would continue current management practices. Differences in the other four alternatives are highlighted below.

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
Alternative Concept	<p>Continue existing operations and visitor facilities concentrated at the west and east ends of the lakeshore.</p> <p>Continue to provide a diversity of visitor use facilities from backcountry to drive-in campsites; primitive trails to boardwalks; unpaved to paved roads; and self-directed interpretation to ranger-led programs.</p> <p>Continue to preserve the central portion in a primitive, relatively undisturbed state.</p>	<p>Expand opportunities for visitor use while preserving the central portion of the national lakeshore in a primitive, relatively undisturbed state (propose wilderness in Beaver Basin).</p> <p>Manage national lakeshore for the perpetuation and protection of the natural environment and the preservation of cultural features while making them available for appropriate public use.</p> <p>Provide additional and more convenient access to significant national lakeshore features on the west and east portions of the national lakeshore.</p> <p>Maintain the diversity of visitor opportunities in a way that would not further degrade resources.</p> <p>Improve the operational effectiveness of the national lakeshore.</p>	<p>Continue management as in the no-action alternative with some minor visitor facility improvements.</p> <p>Continue to provide a diversity of visitor use facilities and experience opportunities throughout the national lakeshore.</p> <p>Preserve the central portion of the national lakeshore in a relatively primitive, undisturbed state.</p>	<p>Make the national lakeshore an easier and more convenient place to visit while keeping much of the lakeshore in a natural state.</p> <p>Provide additional facilities and infrastructure to accommodate use and make it easier to get to primary features.</p> <p>Explore ways to accommodate additional recreational use and to continue to provide a diversity of uses and experience opportunities throughout the national lakeshore.</p>	<p>Continue to provide a diversity of use and visitor experience opportunities – offer remote and primitive uses in the large proposed wilderness area of Chapel and Beaver Basins, and make eastern and western portions more accessible.</p> <p>Maximize opportunities for nonmotorized recreation (hiking and backcountry camping) in a relatively remote, quiet, natural area in the central portion of the national lakeshore.</p> <p>Improve ease of access to some cultural and natural features in the remainder of the national lakeshore.</p>
Management Prescriptions		Note: Percentages are approximate			
pristine	The management prescriptions were developed as a result of this planning effort and therefore are not applied to the no-action alternative.	3%	3%	3%	3%
primitive		28%	18%	13%	39%
casual recreation		11%	20%	25%	11%
mixed use		51%	48%	48%	45%
orientation/history		1%	1%	1%	1%
developed		6%	10%	10%	1%
paved road		10 miles	9 miles	19 miles	9 miles

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
Management Prescriptions (cont.)					
improved gravel road		20 miles	12 miles	16 miles	13 miles
primitive road		0 miles	3 miles	0 miles	0 miles

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
Cultural Resources	<p>Continue to manage for the protection of cultural features while making them available for appropriate public use.</p> <p>Continue to preserve, upgrade, and/or adaptively use some significant cultural resources; continue to adaptively use or leave other cultural resources alone.</p> <p>Continue to rehabilitate and renovate the main buildings at the Au Sable Light Station.</p> <p>Continue to house museum collection in substandard facilities.</p> <p>Continue to protect and interpret Schoolcraft Furnace and kilns.</p>	<p>Continue to preserve, upgrade, and/or adaptively use several significant cultural resources; continue to adaptively use or leave alone other cultural resources.</p> <p>Continue to protect and interpret Schoolcraft Furnace and kilns.</p> <p>Rehabilitate and adaptively use the Munising Range Light Station and rehabilitate and preserve cultural landscape.</p> <p>Rehabilitate, preserve, and adaptively use Sand Point Coast Guard Station and boathouse, Grand Marais Coast Guard Station, and Grand Marais Harbor of Refuge quarters, and rehabilitate and preserve cultural landscapes.</p> <p>Rehabilitate and renovate ancillary structures at Au Sable Light Station and restore and preserve cultural landscape; add restrooms and utilities.</p> <p>Rehabilitate/preserve the Abrahamson barn and Becker farm and restore rehabilitate and preserve the cultural landscape s of the Abrahamson and Becker Farms.</p> <p>Include curatorial space in new administrative/head-quarters facility at Munising administration and maintenance facility.</p>	Same as preferred alternative.	Same as preferred alternative except the cultural landscapes at the Grand Marais Coast Guard Station and Refuge Quarters would be restored and preserved.	Same as the preferred alternative.

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
Natural Resources	Continue to manage natural resources for the perpetuation and protection of the natural environment while making them available for appropriate public use. Continue to manage Grand Sable Dunes as a research natural area.	Same as no action plus ensure long- term protection of the natural resource values in the Beaver Basin by proposing it for designation as wilderness.	Same as no action alternative.	Same as no action alternative.	Same as no action plus ensure long- term protection of the natural resource values in the Chapel and Beaver Basins by proposing these areas for wilderness designation.
Visitor Use Opportunities					
Concept	Concentrate use around Munising Falls, Sand Point, the Miners area, and along the North Country National Scenic Trail in the west end and Hurricane River, Twelvemile Beach, Au Sable Light Station, Log Slide, Grand Sable Lake and Falls, and along the North Country National Scenic Trail in the east end.	Same as no- action alternative.	Same as no action alternative.	Same as no action alternative.	Same as no action alternative.
Visitor Orientation/ Interpretation	Continue visitor orientation and information at NPS/USFS visitor information center in Munising, Munising Falls, Miners Castle, Grand Sable visitor center, and Grand Marais Maritime Museum/ ranger station. Continue interpretation at the former Sand Point Coast Guard Station, Au Sable Light Station, and Grand Marais Maritime Museum.	Same as no- action, plus offer interpretation at Munising Range Light Station, the former Sand Point Coast Guard Station (more actively than in the no- action alternative), Au Sable Light Station, Grand Marais Coast Guard Station, Grand Marais Harbor of Refuge quarters, and Grand Marais Maritime Museum.	Same as preferred alternative.	Same as preferred, plus construct small visitor orientation/interpretation building (or expand existing buildings) at Miners Castle.	Same as alternative C.
Activities and Access to Features	Continue dispersed visitor use in Beaver Basin.	Same as no action alternative.	Same as no action alternative.	Same as no action alternative.	Same as no action; close roads and Beaver Basin overlook.
	No new drive- in campground and trails in the Miners area.	Construct new drive- in campground and trails in the Miners area.	Same as preferred alternative.	Same as preferred alternative.	Same as preferred alternative.
	No new boat- in campsites at Grand Sable Lake.	Construct boat- in campsites at Grand Sable Lake.	Same as no action alternative.	Same as preferred alternative.	Same as no action alternative.

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
Activities and Access to Features (cont.)	No overlook at Sevenmile Creek.	Same as no action alternative.	Same as no action alternative.	Construct new overlook and improved gravel access road to Sevenmile Creek overlook (through donation of a 240- acre easement from the state and the acquisition of a 10- acre easement from ForestLand Group, Limited Liability Corporation).	Same as no action alternative.
	No site plan for Hurricane River campground/Au Sable Light Station area.	Develop detailed site plan for Hurricane River campground/Au Sable Light Station area.	Same as preferred alternative.	Same as preferred alternative.	Same as preferred alternative.
	Keep current mix of gravel and paved access roads.	Pave/improve a few access roads to primary national lakeshore features.	Same as no action alternative.	Pave/improve many access roads to improve vehicular access to additional lakeshore areas, features, and significant cultural resources.	Pave/improve several access roads to primary national lakeshore features.
Visitor Use Limits	Continue boating on Grand Sable Lake (50 hp or less) and Lake Superior.	Same as no action alternative.	Same as no action alternative.	Same as no action alternative.	Same as no action alternative.
	Keep roads in Beaver Basin open.	Close all vehicular roads in Beaver Basin except for Little Beaver Lake campground access road.	Keep roads in Beaver Basin open.	Keep roads in Beaver Basin open.	Close roads in Beaver Basin, and convert to hiking trails.
	Continue to allow current water activities on Lake Superior.	Same as no- action alternative.	Same as no- action alternative.	Same as no- action alternative.	Prohibit motorized boat access 0.25 mile into Lake Superior from east of Miner's Beach to the mouth of Sevenmile Creek.
	Continue current use of all motors on Little Beaver and Beaver Lakes.	Prohibit use of gasoline-powered motors and continue to allow use of electric motors on Little Beaver and Beaver Lakes.	Allow current use of motors on Little Beaver and Beaver Lakes to continue.	Allow current use of motors on Little Beaver and Beaver Lakes to continue.	Same as preferred.
Tour Boats	Continue tours of Pictured Rocks.	Continue tours of Pictured Rocks with the recommendation that noise from the public address system be reduced so that intrusion on the natural quiet is minimized.	Same as preferred alternative.	Same as preferred alternative.	Same as preferred; also, boats would be required to be at least 0.25 mile from shore between Miners Beach and Chapel Beach.

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
County Road H- 58	Continue mix of paved and unpaved.	Recommend improving some portions of the road to a gravel surface to meet NPS needs (however paving H- 58 would also be acceptable to the National Park Service).	Recommend paving H- 58 from Munising to Grand Marais to provide easy access along the national lakeshore's principal transportation route.	Same as alternative A.	Recommend paving H- 58 from Munising to Kingston Corner and Log Slide to Grand Marais to provide easy and scenic access in these areas. Recommend making H- 58 improved gravel between Kingston Corner and Log Slide.
National Lakeshore Operations	<p>Continue to divide administration between Grand Marais ranger station, and the Grand Sable visitor center.</p> <p>Continue to base west-end maintenance at maintenance facility near Munising.</p> <p>Continue administrative headquarters in the old Coast Guard station at Sand Point.</p> <p>Continue to base east- end maintenance activities between the visitor center and Grand Marais.</p> <p>Attempt to acquire outstanding mineral rights on federally owned lands.</p> <p>Continue existing payment- in- lieu- of taxes on lands that have been previously acquired.</p> <p>If it becomes available, seek transfer of about 7.5 acres at Coast Guard Point in Grand Marais from the Coast Guard and Army Corps of Engineers to consolidate ownership and improve public access.</p>	<p>Relocate national lakeshore headquarters function from Sand Point to new administrative building in Munising maintenance facility area.</p> <p>Move staff at Munising Range Light Station to new administration/maintenance facility.</p> <p>Consolidate east- end administrative and maintenance functions in new facility; remove existing Grand Marais maintenance facility.</p> <p>Consider land acquisition, according to criteria, if lands became available.</p>	Same as preferred alternative.	Same as preferred alternative.	Same as preferred alternative.

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
Wilderness	Propose no wilderness.	Propose federal lands in Beaver Basin (except for Little Beaver Lake campground and access road) for wilderness designation – 11,739 acres (about 16% of national lakeshore).	Propose no wilderness.	Propose no wilderness.	Propose Beaver Basin and Chapel Basin for wilderness designation – 16,959 acres (about 23% of national lakeshore).
Estimated Costs Over the 15- Year Life of the Plan (in 2000 dollars)					
Capital costs	\$0	\$23,078,000	\$11,283,000	\$48,066,000	\$10,762,000
Recurring or replacement costs	\$20,170,000	\$1,154,000.	\$943,000	\$1,188,000.	\$820,000
Recurring annual costs	\$943,000	\$25,529,000.	\$24,623,000	\$24,581,000.	\$25,664,000
Total Life Cycle Costs	\$21,113,000	\$49,761,000	\$36,850,000	\$73,835,000.	\$37,247,000

TABLE 4: SUMMARY OF ENVIRONMENTAL IMPACTS

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
Cultural Resources					
Archeological Sites	No project or construction- related ground disturbance with the potential to impact known archeological resources would occur.	Protect sites identified during surveys of project areas to the extent possible, depending on staffing and funding levels. When possible, avoid the site; if avoidance was not possible, mitigate impacts by recovering site data. Overall impacts on sites that could not be avoided would be long- term, minor to moderate (depending on the data recovery potential of the site) adverse impacts.	Same as preferred alternative.	Same as preferred alternative.	Same as preferred alternative.
Historic Structures	Minor long- term beneficial impact on the Schoolcraft Furnace site, the Au Sable Light Station, the Sand Point and Grand Marais Coast Guard Stations, the Grand Marais Harbor of Refuge quarters, the Munising Range Light Station, and the Abrahamson barn because preservation work and adaptive use would maintain the structures' values and ensure the maintenance and preservation of the buildings.	Long- term minor to moderate beneficial impacts on the Munising Range Light Station, Au Sable Light Station, the Sand Point and Grand Marais Coast Guard Stations, the Grand Marais Harbor of Refuge quarters, and the Abrahamson barn because the structures would be rehabilitated and preserved and documented architectural values would be preserved.	Same as preferred alternative.	Same as preferred alternative.	Same as preferred alternative.

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
Cultural Landscapes	<p>Long- term moderate adverse impacts on cultural landscapes associated with Au Sable Light Station, Abrahamson and Becker Farms, Sand Point and Grand Marais Coast Guard Stations, Munising Range Light Station, and Harbor of Refuge quarters (because no active management is taking place due to a lack of documentation), as well as abandoned agricultural operations, cabin clearings, and abandoned roads.</p>	<p>Restoring/rehabilitating /preserving the cultural landscapes at the Munising Range Light Station, the Sand Point and Grand Marais Coast Guard Stations, the Au Sable Light Station, the Grand Marais Harbor of Refuge quarters, and the Abrahamson and Becker Farms would have long-term, moderate beneficial impacts on the cultural landscapes associated with these sites by preserving their documented values, removing noncontributing elements, and adding other elements reflective of a reasonable facsimile of the cultural landscape's period of significance.</p> <p>Eventual loss of landscapes associated with farming or other agricultural activities – a minor long- term adverse impact.</p>	Same as preferred alternative.	Same as preferred alternative.	Same as preferred alternative.

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
Ethnographic Resources	<p>No project or construction- related ground disturbance with the potential to impact known ethnographic resources.</p> <p>Native Americans would continue to be occasionally disrupted during religious activities, a minor, short- term, recurring adverse impact.</p>	<p>No project- or construction- related ground disturbance with the potential to impact known ethnographic resources.</p> <p>Native Americans desiring privacy for religious activities would be disrupted by the presence of other visitors and noise from visitor- related activities — a minor, short- term, reoccurring, adverse impact; however, conflicts would only be occasional.</p>	Same as preferred alternative.	Same as preferred alternative.	<p>No project- or construction- related ground disturbance with the potential to impact known ethnographic resources.</p> <p>Native Americans desiring privacy for religious activities would be disrupted by the presence of other visitors and noise from water- based visitor- related activities in the casual recreation prescription – a minor, short- term, reoccurring, adverse impact; however, conflicts would only be occasional.</p>
Museum Collection	<p>Long- term minor adverse impact on some of the national lake- shore’s museum collec- tion from continued substandard storage and display conditions. Long- term moderate adverse impacts on staff and researchers from limited access and lack of sufficient space to curate the collection.</p>	<p>Long- term major beneficial impacts on the preservation of and access to the national lakeshore’s museum collection because the collection would be housed in a new repository that would meet modern profes- sional standards and would be more accessible to staff and researchers.</p>	Same as preferred alternative.	Same as preferred alternative.	Same as preferred alternative.

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
Natural Resources					
Species of Concern	Continuing current management would perpetuate short- and long- term beneficial impacts for species of concern. Preserving Grand Sable Dunes as a research natural area would continue to provide a major long-term benefit for species of concern in that area. There would be no discernable adverse impacts on the bald eagle, Pitcher's thistle, the gray wolf, piping plover, designated piping plover critical habitat, or other species of concern expected. Species occurring north of the inland buffer zone elsewhere in the lakeshore would continue to benefit from federal (NPS) protection. Species on state lands are protected through review and management. Species on corporate and privately owned land require review by the Michigan Department of Natural Resources. Although these laws and policies do not guarantee protection, they are an added incentive for protecting these species.	Negligible long- term effects on the bald eagle, Pitcher's thistle, gray wolf, piping plover, designated piping plover critical habitat, or other species of concern. Species occurring within NPS- owned lands are managed to maintain or enhance beneficial conditions. Species inhabiting state lands are protected through review and management. Species on privately owned land are subject to review by the Michigan Department of Natural Resources to ensure protection. Although these laws and policies do not guarantee protection, they are an added incentive for protecting these species.	Same as the no- action alternative.	Same as the no- action alternative.	Same as no action alternative.

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
Wilderness Resources and Values	<p>Wilderness values would be maintained by managing the Beaver and Chapel Basins as primitive and natural. This is a moderate long- term benefit for wilderness values. Wilderness values could be adversely affected in the long term without the designation of wilderness – a moderate impact. The opportunity for solitude has been adversely affected to a moderate degree for the short- term but recurring basis by noise from boats, the tour boat public address system, and logging. The effect of noise from tour boat public address system is mitigable. The total area of wilderness in the central Upper Peninsula would not increase.</p>	<p>Wilderness values in the Beaver Basin would be preserved by wilderness designation (11,739 acres), a moderate long- term beneficial impact. Reducing the noise from tour boat public address system operations between Miners Castle and Chapel Rock would be a moderate long- term intermittent, beneficial impact on opportunities for solitude and natural quiet. Most of the Chapel Basin would be managed to preserve wilderness values, a major long- term beneficial impact. The area around Chapel Lake would be managed to allow improved trail development, a minor long- term adverse impact that is reversible. The total area of wilderness in the central Upper Peninsula would increase by almost 24% — a moderate beneficial impact for those who desire that kind of experience.</p>	<p>Overall, wilderness values would continue to benefit from managing much of the land within the Chapel and Beaver Basins under the primitive management prescription — a major long- term benefit. Reducing the sound on the public address system on the tour boats would improve wilderness values along the shoreline from the west boundary to Chapel Beach over the long term, but intermittently, to a moderate degree. Wilderness values in the Chapel and Beaver Basins would not be guaranteed without designated wilderness — a moderate, long- term, adverse impact.</p>	<p>There would be a moderate long- term benefit from continuing to manage Beaver Basin under the primitive prescription. Wilderness values would be reduced because management of a portion of Chapel Basin would change from backcountry to casual recreation – a moderate, long- term adverse impact. The opportunity for solitude and natural quiet would continue to be diminished by logging unless logging was reduced – a moderate, long- term, intermittent, adverse impact. Opportunities for solitude and natural quiet would improve with the reduction of noise from the public address system used on tour boats – a moderate, long- term, intermittent beneficial impact.</p> <p>Development of the Sevenmile Creek overlook would diminish the opportunity for solitude and natural quiet to a minor degree for the long term.</p> <p>Wilderness values could be adversely affected in the long term without the designation of wilderness – a moderate long- term impact.</p>	<p>Overall, wilderness values would be enhanced more than the preferred alternative because a larger area with wilderness characteristics would be preserved (16,959 acres) – a long- term major benefit. Reducing noise from tour boat public address system operations between Miners Castle and Chapel Rock would be a moderate long- term intermittent, beneficial impact on opportunities for solitude and natural quiet. However, motorized boat use would be prohibited within the 0.25- mile- wide portion of Lake Superior from Miners Beach to the mouth of Spray Creek. This would remove much of the noise from motorized boats — a long- term moderate beneficial impact on opportunities for solitude and natural quiet, and other wilderness values. The total area of wilderness in the central Upper Peninsula would increase by about 32% — a major, long- term, beneficial impact for those who desire that kind of experience.</p>

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
Socioeconomic Resources					
	<p>The long- term beneficial impacts of continuing existing management and operations would continue to be minor to moderate compared to the overall economy of Alger County. There would be some benefits from expenditures of about \$21 million in life-cycle costs (estimated for a 25- year period), which would benefit the overall Alger County economy. There would be some short-term moderate benefits for some individuals and businesses involved with national lakeshore daily/annual operations.</p> <p>Alger County would continue to receive payment in lieu of taxes from the federal government for lands that have been previously acquired, a continuing long-term moderate beneficial impact.</p>	<p>Overall, the long- term benefits would be moderate compared to the economy of Alger County. There would be some benefits from expenditures of about \$50 million in life- cycle costs (estimated for a 25- year period), which would benefit the overall Alger County economy. There would be some moderate to major short- term benefits for some individuals (mostly in the construction industry) from increased business and employment opportunities related to lakeshore projects proposed in this alternative.</p> <p>National lakeshore operations would be a continuing long- term, beneficial contribution to the local economy.</p>	<p>Overall, the long- term benefits would be minor to moderate compared to the economy of Alger County. There would be some benefits from expenditures of about \$37 million in life-cycle costs (estimated for a 25- year period), which would benefit the overall Alger County economy. There would be some moderate to major short-term benefits for some individuals (mostly in the construction industry) from increased business and employment opportunities related to lakeshore projects proposed in this alternative.</p> <p>National lakeshore operations would be a continuing long- term, beneficial contribution to the local economy.</p>	<p>Overall, the long- term benefits of would be moderate to major compared to the economy of Alger County. There would be some benefits from expenditures of about \$74 million in life- cycle costs (estimated for a 25- year period), which would benefit the overall Alger County economy. There would be some moderate to major short-term benefits for some individuals (mostly in the construction industry) from increased business and employment opportunities related to lakeshore projects proposed in this alternative.</p> <p>National lakeshore operations would be a continuing long- term, beneficial contribution to the local economy.</p>	<p>Overall, the long- term benefits would be minor to moderate compared to Alger County' economy. There would be some benefits from expenditures of about \$37 million in life- cycle costs (estimated for a 25- year period), which would benefit the overall Alger County economy. There would be some moderate to major short- term benefits for some individuals (mostly in the construction industry) from increased business and employment opportunities related to lakeshore projects proposed in this alternative.</p> <p>National lakeshore operations would be a continuing long- term, beneficial contribution to the local economy.</p> <p>If restricting the tour boats from operating closer than 0.25 mile from shore between Miners and Chapel Beaches affected the tour's popularity so that the economic viability of the operation suffered, tours might be discontinued, a major adverse long- term impact on tour operations.</p>

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
Visitor Use and Experience					
Opportunities for Recreational Activities	Maintaining the existing diversity of recreational driving experiences would have a long- term minor beneficial impact on the recreational driving opportunities at the national lakeshore for those who prefer a more primitive, slower, unpaved driving experience. However, for those who prefer a less primitive paved experience, actions under this alternative would be a long- term minor adverse impact.	Impacts on opportunities for recreational activities would be long term and mixed. Eliminating gasoline- powered motorboating opportunities on the Beaver Lakes would have a long- term minor adverse impact on visitors who desire this kind of experience in this area and a long- term moderate beneficial impact on visitors who find gasoline- powered motorboat noise undesirable. The continued use of electric motors on Little Beaver and Beaver Lakes would allow visitors to easily and quietly maneuver their boats around the lakes—a long term minor beneficial impact on both visitors that use the lake with electric motors and visitors who find gasoline- powered motorboats undesirable. Additional or improved recreational opportunities (hiking, camping, and touring historic resources) would provide a long- term moderate beneficial impact. Opportunities for primitive driving experiences would be eliminated, a long- term moderate adverse impact.	Impacts on opportunities for recreational activities would be mixed and long term. Additional opportunities for camping, hiking, and touring historic resources would have a major beneficial impact, and reducing opportunities for long primitive driving experiences leading to primary national lakeshore features would have a moderate long- term adverse impact.	Impacts on recreational opportunities would be mixed and long term. Additional opportunities would come from new facilities (e.g., a campground, trails, boat- in campsites, building rehabilitation, landscape restoration, the new overlook and road, and paved roads); these would have a major beneficial impact. The opportunity for a long, primitive driving experience that leads to primary features would be eliminated if the county paves H- 58 between Little Beaver Lake Road and Grand Sable Lake, a moderate long- term adverse impact for those wishing for this kind of experience.	Impacts on recreational opportunities would be mixed and long term. Loss of motorboating opportunities on the Beaver Lakes and for 0.25 mile of Lake Superior between Miners Beach and the mouth of Sevenmile Creek would have a long- term major adverse impact. Additional or improved recreational opportunities (a new campground and hiking opportunities and opportunities to tour historic resources) would have a major beneficial impact. Additional hiking opportunities in Beaver Basin and along Little Beaver Lake road would have a moderate beneficial impact.

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
Access to Primary Lakeshore Features	<p>Long- term moderate beneficial impact on visitor access to primary features from continuing the existing diversity of access offered in the national lakeshore.</p> <p>Motorized and non-motorized boats would continue to approach cliffs and beaches on the Lake Superior shoreline, a long- term moderate benefit for visitors onboard the boats.</p>	<p>Impacts on access to primary national lake-shore features would be long- term and mixed. Visitors would be able to visit more lakeshore features in a given length of time, a moderate beneficial impact. Due to improved access, certain areas might be crowded at times, a minor adverse impact.</p> <p>Motorized and non-motorized boats would continue to approach cliffs and beaches on the Lake Superior shoreline, a long- term moderate benefit for visitors onboard the boats.</p>	<p>Compared to the no-action alternative impacts on access to primary features would be mostly beneficial and long term. Due to road improvements visitors could see more lakeshore features in a given length of time, a moderate long-term beneficial impact. On the other hand, certain areas could be crowded at times, a minor long- term adverse impact.</p> <p>Motorized and nonmotorized boats would continue to approach cliffs and beaches on the Lake Superior shoreline, a long- term moderate benefit for visitors onboard the boats.</p>	<p>The effect of implementing alternative C on access to primary features would be mixed and long term. Visitors could visit more lakeshore features in a given period of time than under the no- action alternative, a major long-term beneficial impact; however, certain areas might also become crowded, a minor adverse impact.</p> <p>Motorized and nonmotorized boats would continue to approach cliffs and beaches on the Lake Superior shoreline, a long- term moderate benefit for visitors onboard the boats.</p>	<p>Impacts on motorized access to primary features would be mostly adverse and long term. Notably, the opportunity to get close- up (less than 0.25 mile) views of cliffs and beaches from Miners Beach to Chapel Beach from a tour boat or other motorboat would be lost, a major adverse impact.</p> <p>If this change affected the tour's popularity so that the economic viability of the operation suffered, tours might be discontinued, a major adverse long- term impact on visitors.</p> <p>Commercial kayak tours, which provide good views of the cliffs from the water, would experience a minor long-term beneficial impact from the removal of motorized boats in the primitive prescription.</p>

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
Noise	<p>Man- made noise from snowmobiles, motorized boats, personal watercraft outside the 0.25- mile boundary, the public address system on Lake Superior tour boats, and logging vehicles and chainsaws from logging operations would continue to have a short- term moderate adverse impact on the visitor experience. (Because there are several sources of noise, which sometimes overlap, the intensity was determined to be moderate.) Sounds from vehicles on the road to Little Beaver Lake (especially sounds from towed trailers or campers) carrying into Beaver Basin would continue to cause a short- term minor adverse impact on visitors there because the noise disturbance is intermittent and of short duration.</p>	<p>Man- made noise from snowmobiles, motorized boats, and logging vehicles and chainsaws from logging operations would continue to have a long- term, moderate adverse impact on the visitor experience. Gasoline- powered motorboat noise would be eliminated on the Beaver Lakes (managed as the primitive prescription). Compared to the no- action alternative these changes would have a long- term minor beneficial impact on visitors who find such noise undesirable because the current 10- horsepower restriction in the no- action alternative produces only low noise levels. Noise from the tour boat public address system would be reduced under this alternative — a long- term moderate intermittent impact.</p> <p>Sounds from vehicles on the road to Little Beaver Lake would cause a recurring, short- term, minor, adverse impact on visitors seeking a wilderness- type experience in the Beaver Basin.</p>	<p>Man- made noise from snowmobiles, motorized boats, and logging vehicles and chainsaws from logging operations would continue to have a long- term, moderate adverse impact on the visitor experience. Noise from the tour boat public address system would be reduced under this alternative — a long- term, moderate, intermittent, beneficial impact.</p>	<p>Man- made noise from snowmobiles, motorized boats, and logging vehicles and chainsaws from logging operations would continue to have a long- term, moderate adverse impact on the visitor experience. Noise from the tour boat public address system would be reduced under this alternative — a long- term, moderate, intermittent, beneficial impact.</p>	<p>Alternative E would have long- term beneficial impacts related to reducing man- made noise in the national lakeshore. Boat noise would be reduced along 18 miles (from Miners Beach to the mouth of Sevenmile Creek) of the shoreline and adjacent areas, resulting in a moderate long- term beneficial impact on the visitor experience. Reduced noise from the modified tour boat public address system from the west boundary to Chapel Beach would be a long- term, moderate, beneficial, intermittent impact on people looking for a quiet experience. Reduced motorboat and vehicle noise near Beaver Lakes would also have a minor beneficial impact.</p> <p>Man- made noise from snowmobiles, motorized boats, and logging vehicles and chainsaws from logging operations would continue to have a long- term, moderate adverse impact on the visitor experience. Noise from the tour boat public address system would be reduced under this alternative — a long- term, intermittent, moderate, beneficial impact.</p>

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
Scenic Character of County Road H- 58	Maintaining the scenic character on H- 58 would be a long- term minor beneficial impact on visitors seeking a slow- speed scenic driving experience and a long- term minor adverse impact on visitors looking for a faster, route between Munising and Grand Marais (an alternate paved route using Highways 77 and 28 already exists).	If recommended changes were made, these changes would have a moderate long- term adverse impact on H- 58's scenic character.	Same as preferred alternative.	Same as preferred alternative.	Same as preferred alternative.

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
Opportunities for People with Disabilities	<p>Although many outdoor attractions would continue to be available to persons with disabilities, and others that are interpreted through photographs and pamphlets, some important visitor-oriented and operations facilities (including lakeshore headquarters) would remain inaccessible. Thus, moderate long-term adverse effects on persons who are disabled would continue.</p>	<p>Providing a new campground at Miners and a day use area at the Grand Marais Coast Guard Point (both accessible to people with disabilities) might make it easier for people with disabilities to get to, see, or use additional national lakeshore features. These actions would have minor long-term beneficial impacts on visitors with disabilities.</p> <p>Moving the headquarters function to a new administration building near Munising and consolidating administrative and maintenance in a new facility near Grand Marais (both accessible to visitors with disabilities) would have a major long-term beneficial impact on staff and others with disabilities who might need to conduct business in the national lakeshore.</p>	<p>Making the Miners campground accessible to people with disabilities would have a minor impact on these visitors.</p> <p>Moving the headquarters function to a new administration building near Munising and consolidating administrative and maintenance in a new facility near Grand Marais (both accessible to people with disabilities) would have a major long-term beneficial impact on staff and others with disabilities who might need to conduct business in the national lakeshore.</p>	<p>Providing a new road to Sevenmile Creek overlook, a new campground at Miners, and a day use area at the Grand Marais Coast Guard Point (accessible to people with disabilities) would make it easier for people with disabilities to get to, see, or use additional national lakeshore features. These actions would have minor long-term beneficial impacts on visitors with disabilities.</p> <p>Moving the headquarters function to a new administration building near Munising and consolidating administrative and maintenance in a new facility near Grand Marais (both accessible to visitors with disabilities) would have a major long-term beneficial impact on staff and others with disabilities who might need to conduct business in the national lakeshore.</p>	<p>Under this alternative, Little Beaver Lake would no longer be accessible to visitors with disabilities, the new campground at Miners would be accessible to people with disabilities, and the Grand Marais Coast Guard Point would have a new day use area that would also be accessible to people with disabilities. Compared to the no-action alternative, these measures would have a minor long-term beneficial impact on visitors with disabilities.</p> <p>Moving the headquarters function to a new administration building near Munising and consolidating administrative and maintenance in a new facility near Grand Marais (both accessible to people with disabilities) would have a major long-term beneficial impact on staff and others with disabilities who might need to conduct business in the national lakeshore.</p>

	No Action	Preferred Alternative	Alternative A	Alternative C	Alternative E
National Lakeshore Operations	<p>Moderate long- term adverse impact from continued inefficient and dispersed facilities and limited space.</p> <p>Emergency response times to some areas would continue to be slow – a long- term moderate adverse impact.</p> <p>The continuation of the existing motorized access for national lakeshore operations is a long- term minor beneficial impact on operational efficiency by allowing employees to continue to quickly access an area and to transport necessary maintenance equipment and supplies.</p>	<p>Moderate long- term benefit on national lakeshore operations from consolidating operations in new facilities at both ends of the national lakeshore.</p> <p>Improvements to H- 58, if made by the county, would result in a minor long- term decrease in emergency response times in the central and eastern portions of the lakeshore.</p>	<p>Moderate long- term benefit from consolidating operations in new facilities at both ends of the national lakeshore.</p> <p>If the county paves H- 58 as recommended, emergency response times in those portions of the lakeshore would improve, a minor long- term benefit.</p> <p>There would be no change in, and thus no new impacts on, staff access (for maintenance and resource management) to the Beaver Lakes, along the Lake Superior shoreline, and the Chapel area.</p>	<p>Moderate long- term benefit from consolidating operations in new facilities at both ends of the national lakeshore.</p> <p>If the county paves H- 58 as recommended under this alternative, emergency response times would decrease, a minor long- term benefit because it would remain, by design, a slow- speed road.</p> <p>Continued motorized access for maintenance and resource management activities at the Beaver Lakes and along the Lake Superior shoreline, and changing access to the Chapel area from hiking to vehicles would make administrative access more efficient in these areas.</p>	<p>The impacts of implementing alternative E on national lakeshore operations would be mixed. The proposed consolidated operations facilities would increase efficiency – a long- term moderate benefit.</p> <p>If changes are made by the county as recommended, improving H- 58 would improve emergency response times in some areas, a minor long- term benefit.</p> <p>Precluding staff use of motorboats in national lakeshore waters adjacent to the proposed wilderness (about 18 miles) except in emergencies would have an adverse impact on the operational efficiency of the national lakeshore staff.</p> <p>Changes to mode of access would have an adverse impact on national lakeshore operations in Beaver Basin. Altogether, changes in mode of access would have a moderate long- term adverse impact on the operational efficiency of the national lakeshore staff.</p>

ALTERNATIVES DISMISSED FROM FURTHER CONSIDERATION

Alternatives B and D, presented in *Newsletter 3* and a series of public meetings, were eliminated from further consideration. In that newsletter, alternative B's focus was the protection of the Lake Superior watershed (including its inland lakes, wetlands, streams, and rivers) in and adjacent to the national lakeshore. Cooperative management of the watershed with other entities such as the U.S. Forest Service, Michigan Department of Natural Resources, ForestLand Group, Limited Liability Corporation, and other private landowners were to be emphasized. Recreational use on publicly accessible lands was to be supported and encouraged, but facilities and activities that could degrade water quality would have been carefully monitored and managed.

During the analysis of the draft alternatives, alternative B scored exceptionally well in terms of protecting natural resources and processes (a mandate for the National Park Service). It did not score well according to the other criteria such as providing for visitor enjoyment and access and did not receive much public support. Therefore, it was decided to add some of alternative B's watershed protection measures into the preferred alternative and eliminate this alternative from further consideration.

Alternative D's focus was centered on a wilderness proposal that would not require additional land or easement purchases by the National Park Service. The Beaver Basin area (within the shoreline zone between Spray Falls and the mouth of Sevenmile Creek) and adjacent Lake Superior waters within the national lakeshore were to be proposed for designated wilderness. Vehicular access to Little Beaver Lake campground would have remained. Some cultural and natural features at the ends of the lakeshore would have been easier to get to and would have more facilities and amenities than at present.

During the analysis of the draft alternatives, alternative D did very well and many people supported the concept, however the alternative did not address many public concerns of more and convenient access to the national lakeshore's significant features. Therefore, it was decided to use alternative D as the foundation for the preferred alternative, add some of the watershed protection elements from alternative B (cooperative management within watershed and reduce impacts at stream crossings, which received public support), and incorporate alternative C actions that would improve public access to significant national lakeshore features. Since alternative D is the foundation for the preferred alternative, the planning team decided to simplify the *Draft General Management Plan and Wilderness Study Environmental Impact Statement* and eliminate alternative D from further analysis.

In addition, to complete alternatives some individual actions were considered but dismissed from further consideration. They are as follows:

A drive-in campground and trail system was considered at Grand Sable Lake. This campground was originally proposed in the 1981 *General Management Plan*. The planning team considered this campground but decided it was ill advised for biological reasons. The campground's proximity to the Grand Sable Dunes would likely threaten the integrity of one of the last naturally functioning dune systems on the upper Lakes, the richest orchid flora in Michigan, and a large tract of prime habitat for the federally listed Pitcher's thistle. The presence of the campground would inevitably result in more foot traffic in the dunes even if no trails are proposed or built. This increase in traffic has the real potential to compromise one of the most pristine dune-fields in the Great Lakes Basin. Abundant opportunity for developing additional

camping would seem to be available outside the national lakeshore in or close to Grand Marais.

Also, a road connecting the lower loop of the Hurricane River Campground with the Au Sable Light Station was considered. Currently, the two are connected with a 1.5- mile

footpath. The planning team considered the feasibility of constructing a road to the light station. Given the wetlands nature of the area, the planning team could not find an environmentally acceptable option and therefore did not consider road construction in any of the alternatives that were carried forward.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

This table shows how each alternative would or would not achieve the requirements of sections 101 and 102(1) of the National Environmental Policy Act and other environmental laws and policies. In the National Park Service, this requirement is met by (1) disclosing how each alternative meets the criteria set forth in section 101(b), which are listed in table 5 below, and by (2) presenting any inconsistencies between the alternatives analyzed and other environmental laws and policies (Director's Order 12, 2.7.E). According to section 101, this alternative would cause the least damage to the biological and physical environment, and best protect, preserve, and enhance historic, cultural, and natural resources. It would also "create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans." Although all alternatives in this plan rated well, which is not surprising because elements that were not

environmentally sound were eliminated from consideration, the preferred alternative best met the criteria of section 101(b).

The scores on table 5 show that the alternatives are fairly close. The preferred alternative rated high in all categories except one (achieving a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities). Alternative C scored better than the preferred alternative for that criterion but scored slightly lower on two other criteria (fulfilling the responsibilities of each generation as trustee of the environment for succeeding generations and enhancing the quality of renewable resources and approaching the maximum attainable recycling of depletable resources). The no-action alternative and alternatives A and E scored lower than the preferred alternative or alternative C. Therefore the preferred alternative was also chosen as the environmentally preferred alternative.

TABLE 5: ENVIRONMENTALLY PREFERRED ALTERNATIVE ANALYSIS

Criteria	Alternatives				
	No Action	Preferred	A	C	E
Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.	1*	2*	1	1	2
Ensure safe, healthful, productive, and esthetically and culturally pleasing surroundings for all Americans.	2	2	2	2	2
Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.	1	2	1	2	1
Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and a variety of individual choices.	2	2	1	2	1
Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.	2	1	2	2	1
Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.	1	2	1	1	2
Total Points	9	11	8	10	9

1* = Alternative only partially achieves the intent of the criteria set forth in section 101(b) of the National Environmental Policy Act.

2* = Alternative achieves the intent of the criteria set forth in section 101(b) of the National Environmental Policy Act to cause the least damage to the biological and physical environment, and best protect, preserve, and enhance historical, cultural, and natural resources.

Note: There were no "low" ratings because elements that were not environmentally sound were eliminated from consideration.

